Grade 7
E1 – Geometric and Spatial Reasoning

	Curriculum Expectations	Pages That Cover the Expectations
E1.1	describe and classify cylinders, pyramids, and prisms according to their geometric properties, including plane and rotational symmetry	5 - 30
E1.2		
E1.3	perform dilations and describe the similarity between the image and the original shape	57 - 66
E1.4	describe and perform translations, reflections, and rotations on a Cartesian plane, and predict the results of these transformations	67 - 103

Preview of 120 pages from this product that contains 441 pages total.

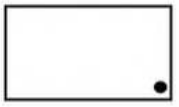
© Super Simple Sheets

Name: _____ 16

Curriculum Connection
E1.1

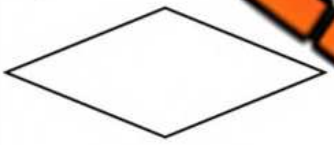
Rotational Symmetry

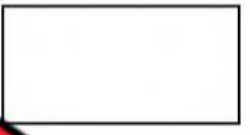
A shape has rotational symmetry if it looks the same after it has been rotated from 0° to 360°. The number of times a shape matches as it is rotated is called the **order**.

Original Shape	180° rotation	360° rotation
		

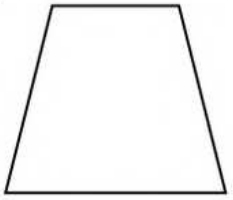
This rectangle has an order of only 2 because it looks the same at 180° and 360°.

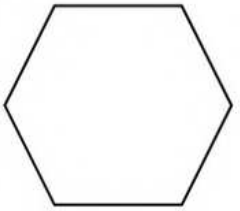
Ques[illegible] the order of rotational symmetry for each shape below

1) 

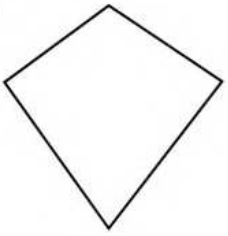
3) 

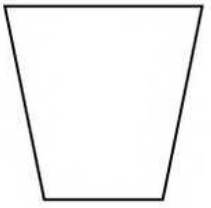
4) 

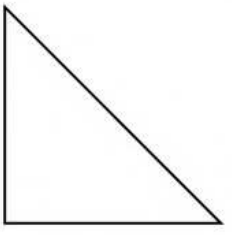
5) 

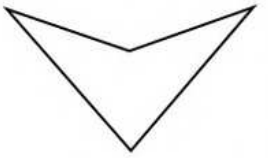
6) 

7) 

9) 

10) 

11) 

12) 

PREVIEW

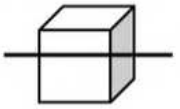
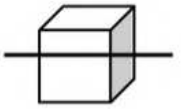
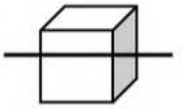
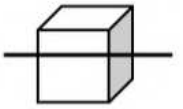
© Super Simple Sheets

Name: _____ 18

Curriculum Connection
E1.1

Rotational Symmetry (3D Objects)

We can determine the rotational symmetry of 3D shapes as well as 2D shapes. The process is the same, as we rotate the 3D shape 360° about the axis and count how many times the 3D shape will match its original shape.

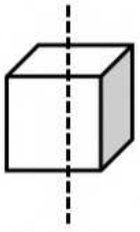
Original Object	90° rotation	180° rotation	270° rotation	360° rotation
				

As you c[illegible]xample above, we could have put the axis vertical or even diago[illegible]ffect the number of orders of rotational symmetry. In this exampl[illegible]e ord[illegible]e cube matches itself 4 times as it rotates 360°.

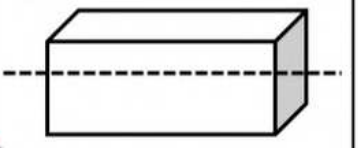
PREVIEW

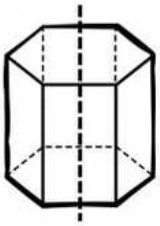
Questions

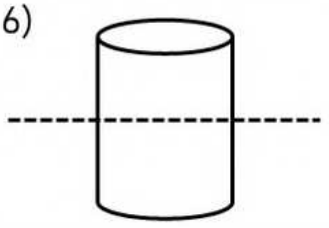
[illegible]the o[illegible]tional symmetry for each object below

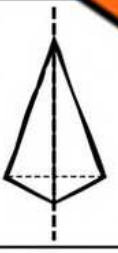
1) 

2) 

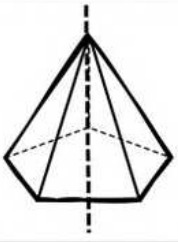
4) 

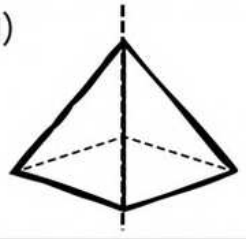
5) 

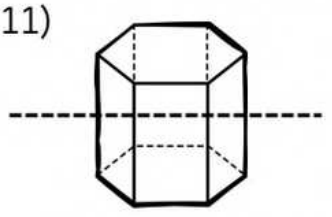
6) 

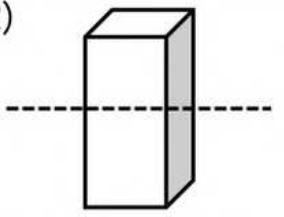
7) 



9) 

10) 

11) 

12) 

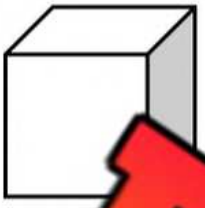
© Super Simple Sheets

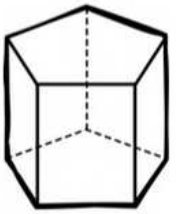
Name: _____ 19

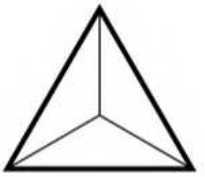
Curriculum Connection
E1.1

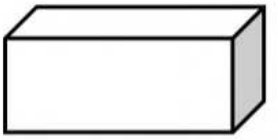
Rotational Symmetry (3D Objects)

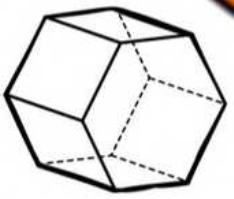
Questions Draw the axis and the order of rotational symmetry for each 3D object

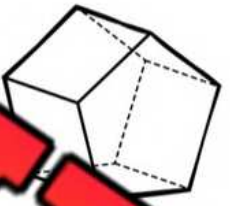
1) 

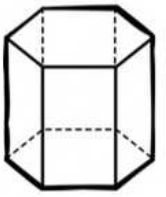
2) 

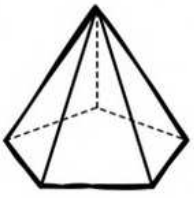
3) 

4) 

5) 

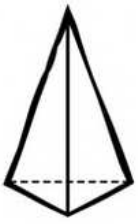
7) 

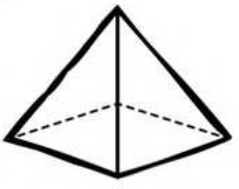
8) 

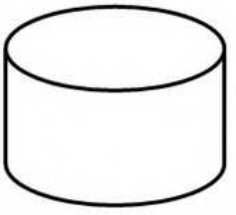
9) 

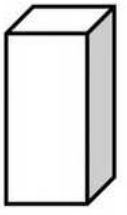
10) 

11) 

13) 

14) 

15) 

16) 

PREVIEW

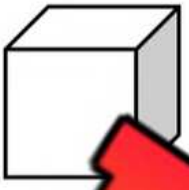
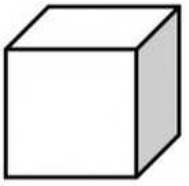
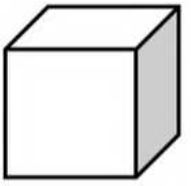
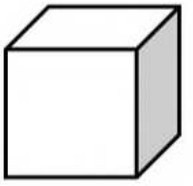
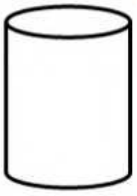
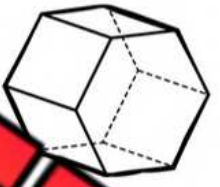
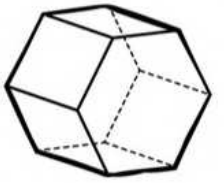
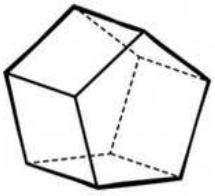
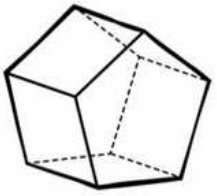
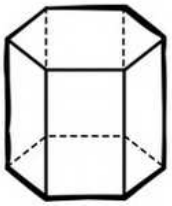
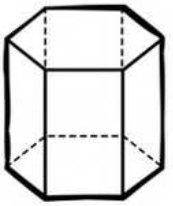
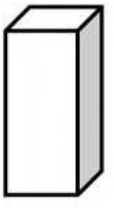
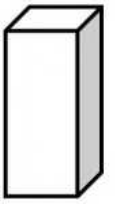
© Super Simple Sheets

Name: _____ 20

Curriculum Connection
E1.1

Rotational Symmetry (3D Objects)

Questions Draw the axis where it should go based on the orders of rotational symmetry

1) 	2) 	3) 	4) 
	Order = 3	Order = 2	Order = 4
5) 		7) 	8) 
Order = 2	Order = 2	er =	Order = 2
9) 	10) 	11) 	
Order = 2	Order = 5	Order = 4	Order = 5
13) 	14) 	15) 	16) 
Order = 6	Order = 2	Order = 2	Order = 4

PREVIEW

© Super Simple Sheets

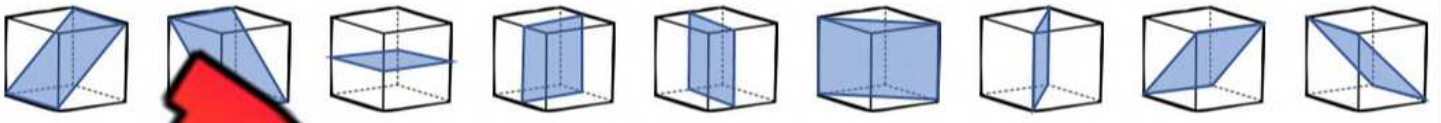
Name: _____ 21

Curriculum Connection
E1.1

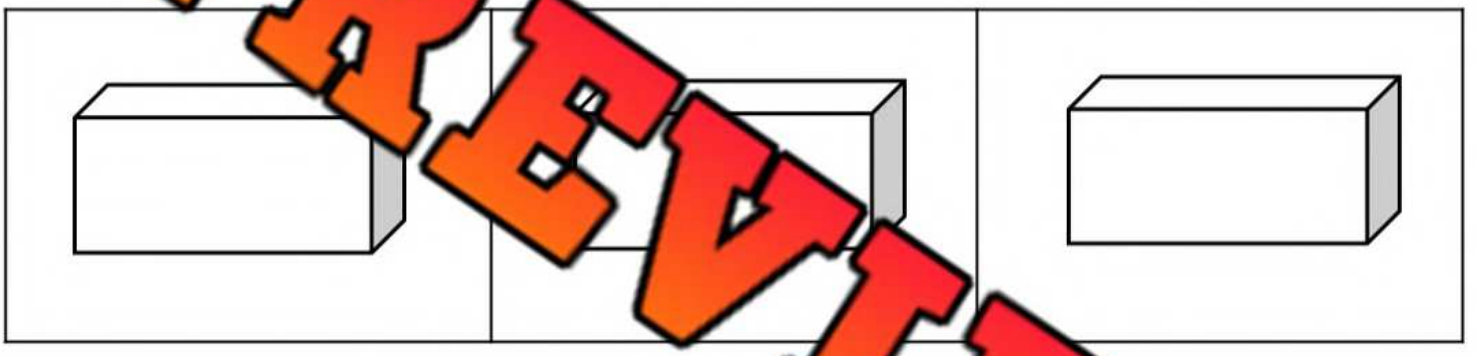
Plane Symmetry (3D Objects)

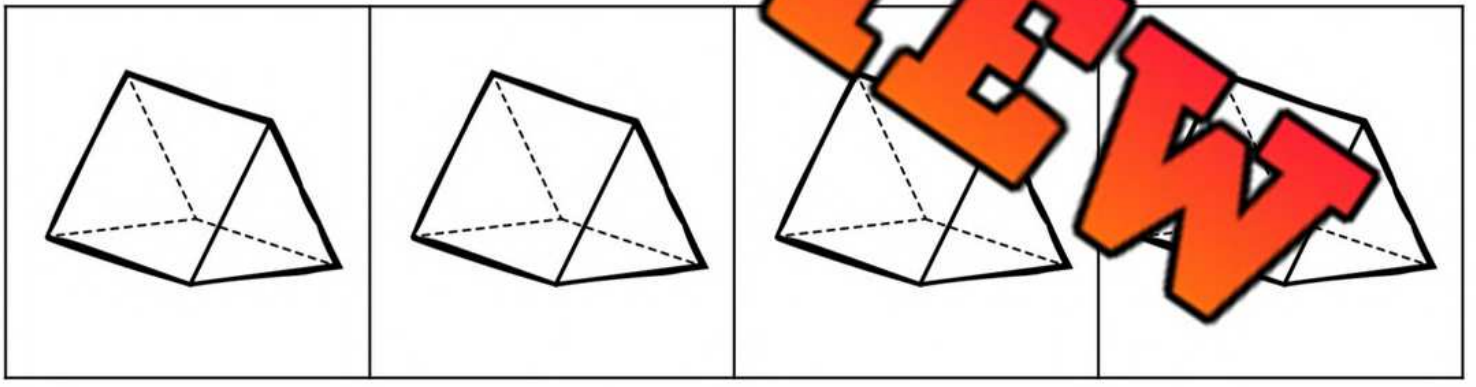
A 3D object has plane symmetry if a plane can divide the object into two parts that are the mirror images of each other.

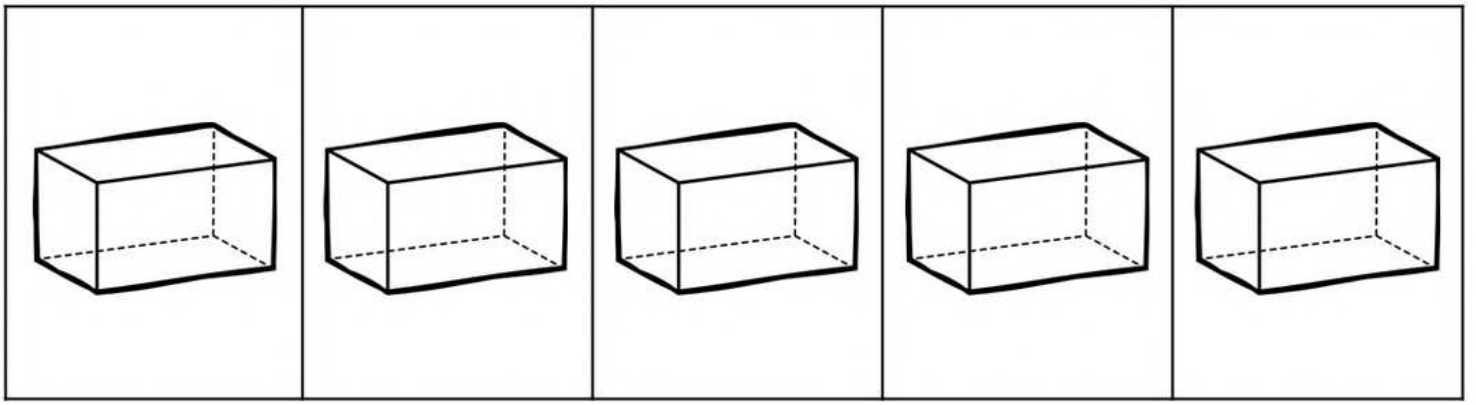
Below are the 8 planes of symmetry for a cube.



Ques Dr lanes of symmetry for the 3D objects below







PREVIEW

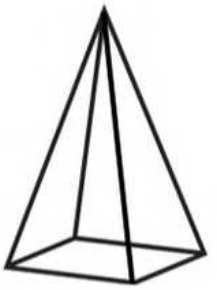
Name: _____ 22

Curriculum Connection
E1.1

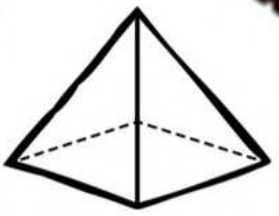
Plane Symmetry (3D Objects)

Part 1 Draw the planes of symmetry on the rectangular pyramid below

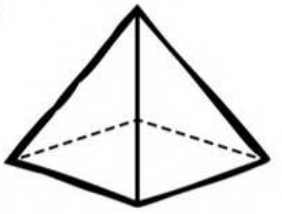
1) 

2) 

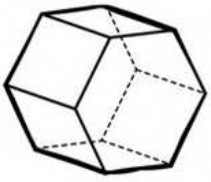
Part 2 Dr[illegible]nes of symmetry on the square pyramid below

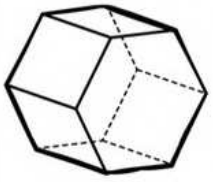
1) 

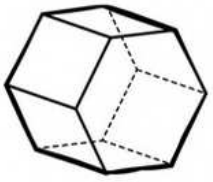
3) 

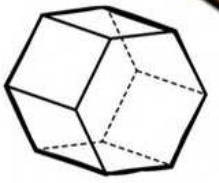
4) 

Part 3 Draw the planes of symmetry [illegible] hexa[illegible] below

1) 

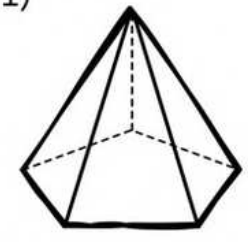
2) 

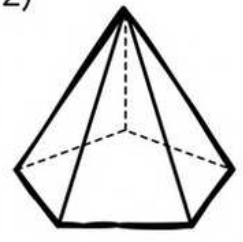
3) 

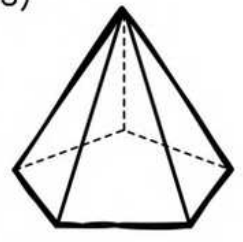
4) 

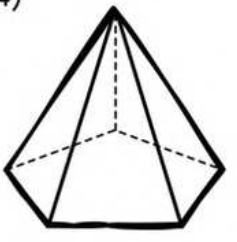
6) 

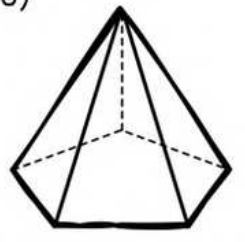
Part 4 Draw the planes of symmetry on the pentagonal pyramid below

1) 

2) 

3) 

4) 

5) 

PREVIEW

© Super Simple Sheets

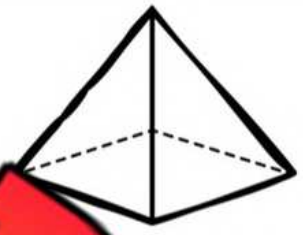
Name: _____ 23

Curriculum Connection
E1.1

Plane Symmetry (3D Objects)

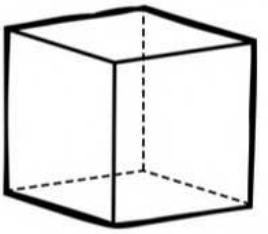
Questions Fill in the tables below by investigating different 3D objects

1)



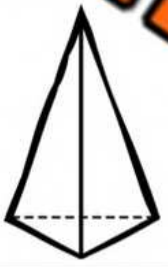
[illegible]ramid	
Line[illegible]ymmetry for t[illegible] Base	**[illegible] of Symmetry**

2)



Cube	
Lines of Symmetry for the Base	**Planes of Symmetry**

3)

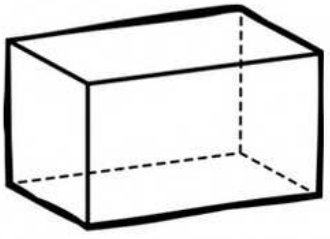


Triangular Pyramid	
Lines of Symmetry for the Base	**Planes of Symmetry**



[illegible]ngula[illegible]m	
Lines of [illegible]y for the Ba[illegible]	**[illegible]metry**

5)



Rectangular Prism	
Lines of Symmetry for the Base	**Planes of Symmetry**

6)



Rectangular Pyramid	
Lines of Symmetry for the Base	**Planes of Symmetry**

PREVIEW

© Super Simple Sheets

Name: _____ 24

Curriculum Connection
E1.1

Cylinders – Deep Dive!

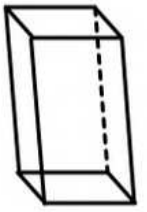
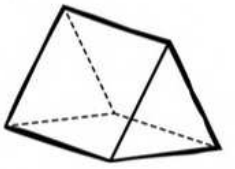
All About Cylinders

- Cylinders have two congruent faces that are parallel to each other. These are the bases of the cylinder.
- Cylinders have circular bases and one curved surface that connects them.
- If a solid has polygonal bases instead of circles, it is called a prism, not a cylinder.
- Cylinders also have parallel line segments (generators) that join one base to the other.

PREVIEW

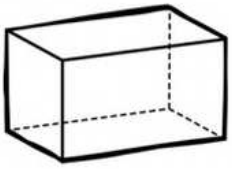
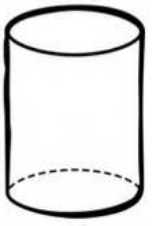
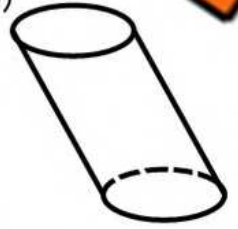
Part 1

the cylinders – circular, prism, or not a cylinder

1)	2)	3)	4)	5)
				

Part 2

1) Shade in the 2 bases. Draw a s to arallel lines

1)	2)	3)	4)	5)
				

Part 3

Draw 3 different cylinders below

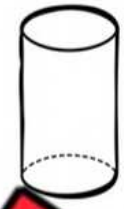
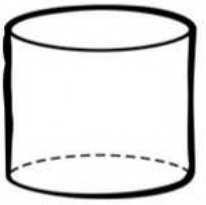
1)	2)	3)
Circular Cylinder	Not a Cylinder	Prism

© Super Simple Sheets

Name: _____ 25

Curriculum Connection
E1.1

Types of Cylinders

Right Circular Cylinder	Oblique Cylinder	Elliptical Cylinder
		
- Bases a lar and congru - Si gh perp ular	- Bases are congruent but **tilted** - Sides slant, not vertical	- Bases are elliptical (oval/ stretched) and congruent - Can be right or oblique

Directions Dra erent types below and explain why they fit the criteria.

Right Circular er	Explanation

Oblique Cylinder	lan

Elliptical Cylinder	Explanation

PREVIEW

© Super Simple Sheets

Name: _____ 27

Curriculum Connection
E1.1

Prisms – Deep Dive!

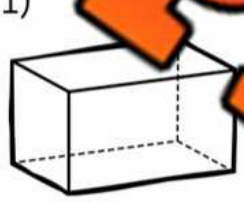
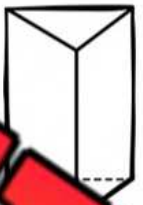
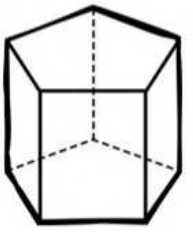
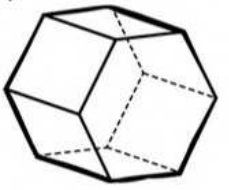
All About Prisms

- Prisms are special types of cylinders with two congruent, polygonal faces that are parallel to each other. These are the bases of the prism
- A prism is named based on the shape of its base
- Prisms may be right-angled or oblique (straight lines that are not horizontal or vertical – slanted)

PREVIEW

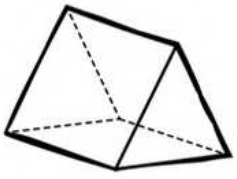
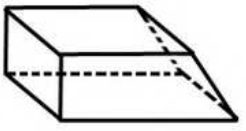
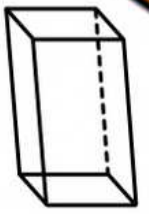
Part 1

ade in the bases 2) What are the names of the prisms?

1)	2)	3)	4)	5)
				

Part 2

Is the prism oblique or r t angle

1)	2)	3)	4)	5)
				

Part 3

Draw 2 oblique prisms and 2 right-angled prisms

1)	2)	3)	4)
Right-Angled	Right-Angled	Oblique	Oblique

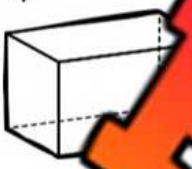
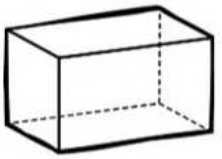
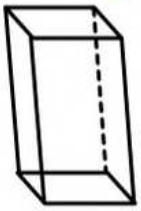
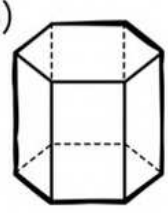
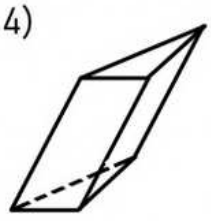
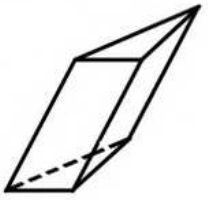
© Super Simple Sheets

Name: _____ 28

Curriculum Connection
E1.1

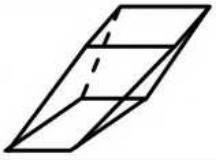
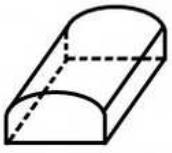
Elements of a Prism

Investigate Fill in the table to learn more about the prisms below

Prism	Are the Parallel Lines that Connect the Bases Right-Angled?	2 Identical Bases (Shade in)	Number of Planes of Symmetry	Type of Prism
1) 				
2) 				
3) 				
4) 				

PREVIEW

Explain Why are the shapes below not prisms?

1) 	_____
2) 	_____

© Super Simple Sheets

Name: _____ 29

Curriculum Connection
E1.1

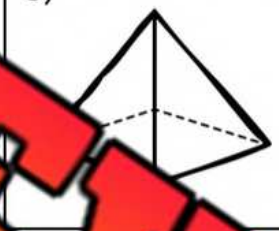
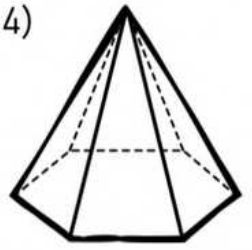
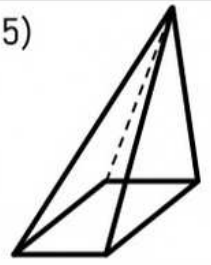
Pyramids – Deep Dive!

All About Pyramids

- Pyramids are a type of cone with a polygon for a base
- Triangles extend from each side of the base and join at the apex of the pyramid
- A pyramid is named based on the shape of its base
- Pyramids can be **right angled** or **oblique**, depending on whether the apex of the pyramid lies directly above the centre of its base

Part 1

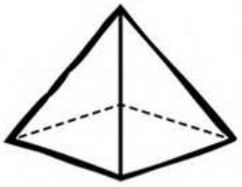
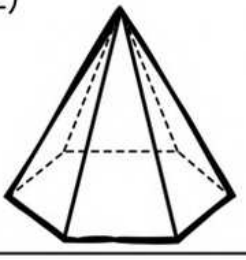
de in the base 2) What are the names of the pyramids?

1)	2)	3)	4)	5)
				

PREVIEW

Part 2

Is the pyramid oblique or right a d?

1)	2)	3)	4)	5)
				

Part 3

Draw 2 oblique pyramids and 2 right-angled pyramids

1)	2)	3)	4)
Right-Angled	Right-Angled	Oblique	Oblique

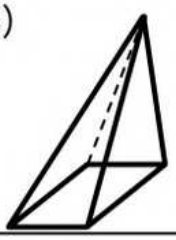
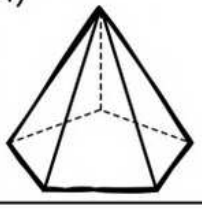
© Super Simple Sheets

Name: _____ 30

Curriculum Connection
E1.1

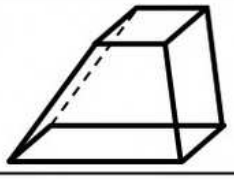
Elements of a Pyramid

Investigate Fill in the table to learn more about the pyramids below

Pyramid	Is the Apex Above the Centre of the Base?	Shade in the Base	Number of Planes of Symmetry	Type of Pyramid
1) 				
2) 				
3) 				
4) 				

PREVIEW

Explain Why are the shapes below not pyramids?

1) 	
2) 	

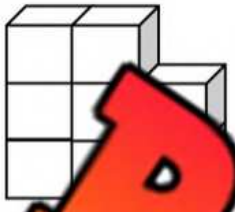
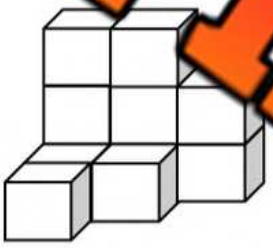
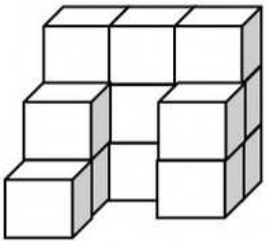
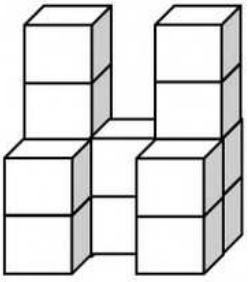
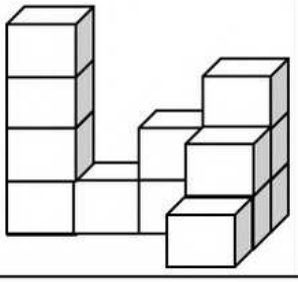
© Super Simple Sheets

Name: _____ 31

Curriculum Connection
E1.2

Drawing Top, Front, and Side Views of Objects

Instructions Draw the top, front, and side view of the objects below

Original Shape	Top View	Front View	Side View
1) 			
2) 			
3) 			
4) 			
5) 			

PREVIEW

© Super Simple Sheets

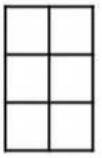
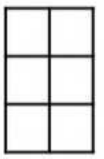
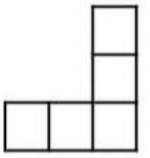
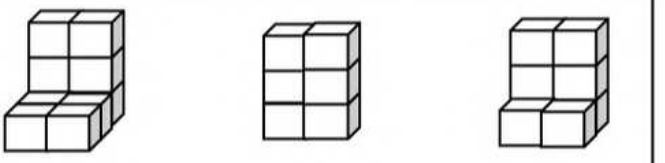
Name: _____ 33

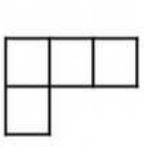
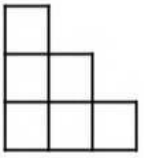
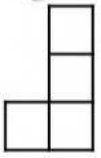
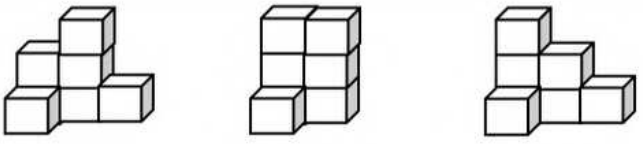
Curriculum Connection
E1.2

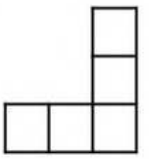
Drawing Top, Front, and Side Views of Objects

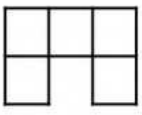
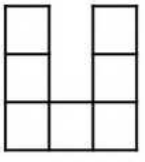
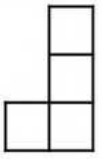
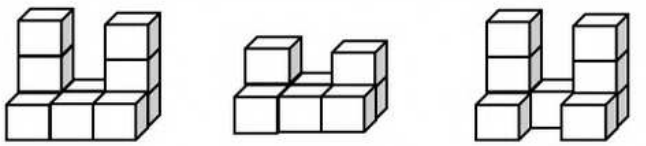
Instruction Look at the front, top, and side views and circle the matching 3D object

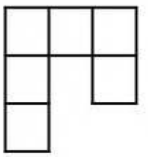
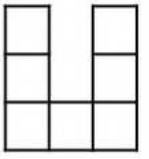
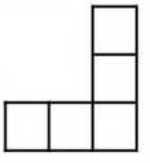
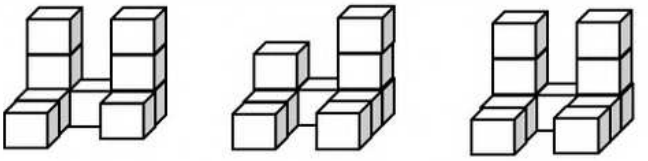
1) Top View	Front View	Side View
		
		

2) Top View	Front View	Side View
		
		

3) Top View	Front View	iew
		
		

p View	Front View	Side View
		
		

5) Top View	Front View	Side View
		
		

6) Top View	Front View	Side View
		
		

PREVIEW

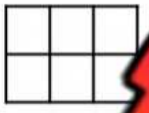
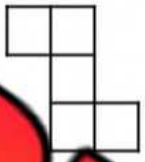
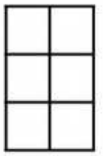
© Super Simple Sheets

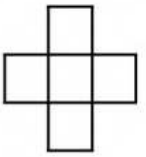
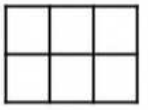
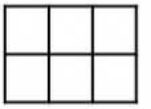
Name: _____ 34

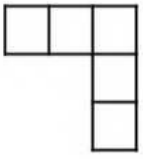
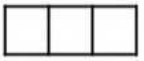
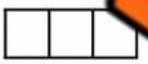
Curriculum Connection
E1.2

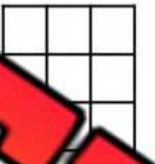
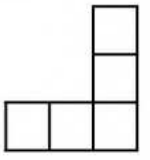
Drawing Top, Front, and Side Views of Objects

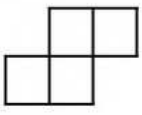
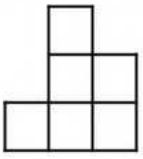
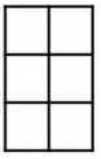
Instruction Draw the 3D objects by using the top, front, and side views

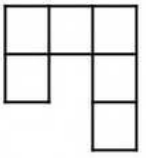
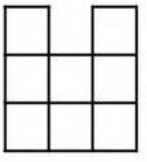
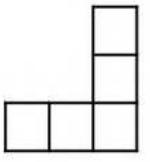
Top View	Front View	Side View
		
1)		

Top View	Front View	Side View
		
2)		

Top View	Front View	Side View
		
3)		

Top View	Front View	Side View
		
4)		

Top View	Front View	Side View
		
5)		

Top View	Front View	Side View
		
6)		

PREVIEW

© Super Simple Sheets

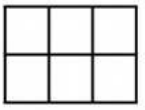
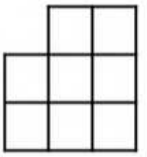
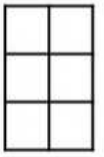
Curriculum Connection
E1.2

Exit Cards

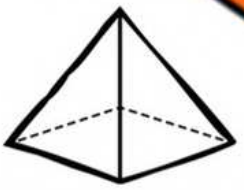
Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Draw the 3D object using the top, front, and side views.

3D Objects	Top View	Front View	Side View
			

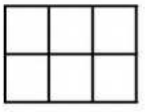
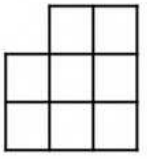
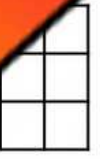
2) Draw the top, front, and side views of the 3D object.

3D Objects	Top View	Front View	Side View
			

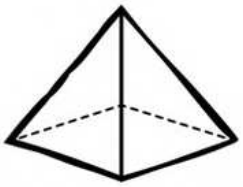
PREVIEW

Name: _____

1) Draw the 3D object using the top, front, and side views.

3D Objects	Top View	Front View	Side View
			

2) Draw the top, front, and side views of the 3D object.

3D Objects	Top View	Front View	Side View
			

© Super Simple Sheets

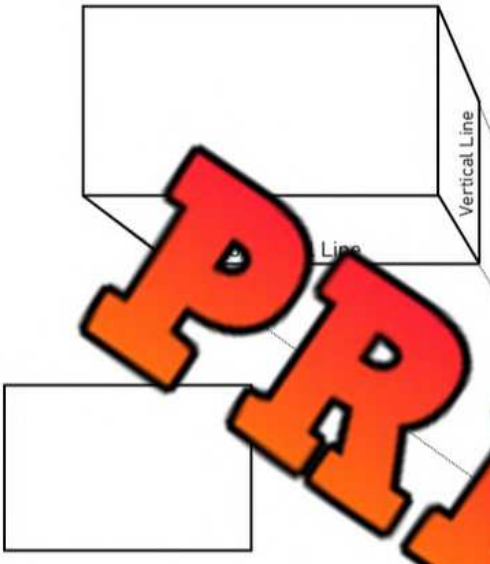
Name: _____ 42

Curriculum Connection
E1.2

Drawing Perspective Views - Boxes

Questions

1) Connect the corners of the boxes to the vanishing point
2) Draw the sides of the boxes with horizontal lines and vertical lines



PREVIEW

© Super Simple Sheets

Name: _____ 44

Curriculum Connection
E1.2

Perspective Drawings – Multiple Vanishing Points

Questions

1) Connect the corners of the shapes to the vanishing point
2) Draw the sides of the shapes with horizontal lines and vertical lines



PREVIEW

© Super Simple Sheets

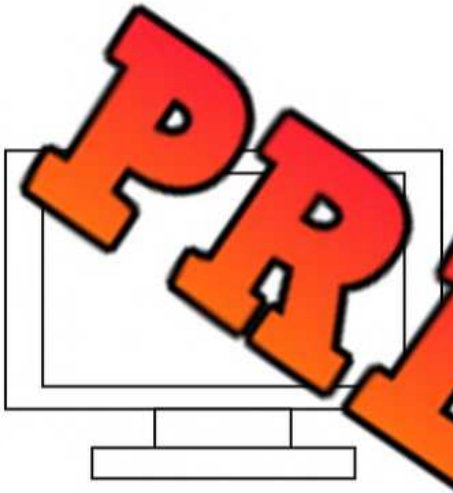
Name: _____ 46

Curriculum Connection
E1.2

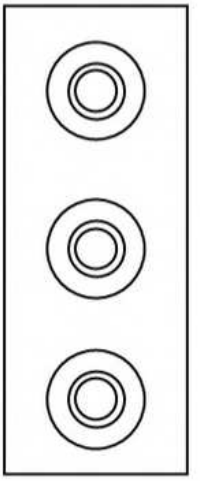
Perspective Drawings – Real-Life Objects

Questions

1) Connect the corners of the objects to the vanishing point
2) Draw the sides of the objects with parallel lines



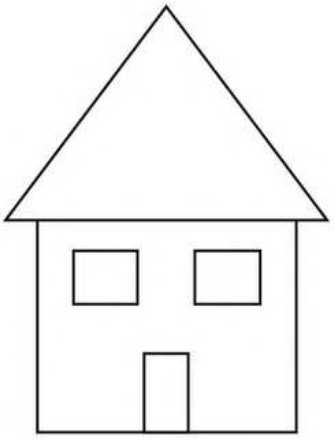
TV



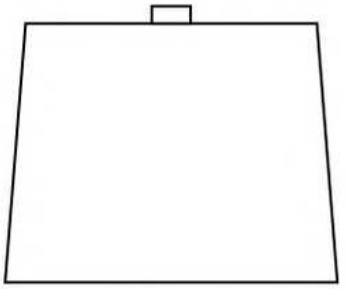
Speaker



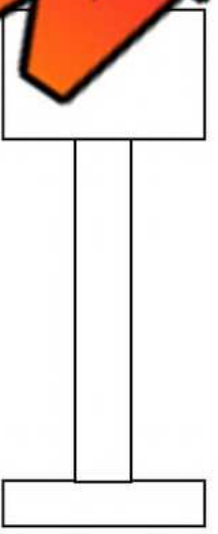
Popcorn



House



Suitcase



Lamp

PREVIEW

© Super Simple Sheets

Name: _____ 47

Curriculum Connection
E1.2

Scale Drawings

Scale Drawings
A scale drawing is used to draw a shape or object smaller or larger than the original but keeping the proportions the same. For example, the CN Tower is 553m tall. The tower on the right is to scale, with a scale factor of 1cm to 100m, or 1:100.

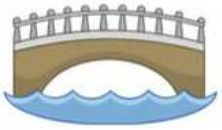


1cm:100m

Questions Answer the questions below

PREVIEW

1) If a [illegible] ng and 1cm equals [illegible]m, ho[illegible]n long would the bridge be [illegible]drawing?



2) The dimensions of a house are 20m by 30m. If one cm equals 2m, what are the scaled dimensions of the house?



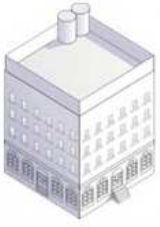
3) If one cm equals 200km on a map, how many centimetres would be used to represent 2400km?



4) T[illegible]ength [illegible]ad is 540km. If 1cm e[illegible]90k[illegible]W[illegible]cm would repre[illegible]ngth o[illegible]oad?



5) Dimensions of a building are 90m by 60m. If one cm equals 15m, what are the dimensions of the building?



6) If one cm equals 12km on a map, how many cm would be used to represent 156km?



© Super Simple Sheets

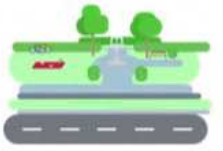
Name: _____ 48

Curriculum Connection
E1.2

Scale Drawings

Questions | Answer the questions below

1) An engineer used a scale factor of 1 centimetre = 15 metres to design a city park. The park will be 180m by 75m. What should the dimensions of the park be on the map?



2) A [illegible] been drawn to scale. The height of the building on the map is 4[illegible]m tall[illegible] factor is 1cm to 5m. What is the height of the building in real-life?



3) An artist builds a model of a car to [illegible]he c[illegible]5.25cm long. The scale factor is 1cm to 20cm.

a) What is the length of the car in centimet[illegible]

b) What is the length of the car in metres?



4) The height of a tree is 12 metres tall and 3 metres wide. Lilli[illegible]w it to scale so she chooses a scale factor of 1cm to 0.5m. What will the dir[illegible]ns of the tree be on her page in centimetres?



5) Carter is figuring out the distance to drive from Toronto to Ottawa on a map. The scale factor is 1cm to 100km. The distance on the map is 4.5cm. What is the distance from Toronto to Ottawa in kilometres?



PREVIEW

© Super Simple Sheets

Curriculum Connection
E1.2

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Questions: Answer the questions below

1) A park is 120m by 80m. If 1cm equals 10m, what are the scaled dimensions of the park in the drawing?

2) A skyscraper is 320m tall. On a scaled drawing, it is represented as 8cm tall. What is the scale factor used in the drawing?

Name: _____

Questions: Answer the questions below

1) A park is 120m by 80m. If 1cm equals 10m, what are the scaled dimensions of the park in the drawing?

2) A skyscraper is 320m tall. On a scaled drawing, it is represented as 8cm tall. What is the scale factor used in the drawing?

PREVIEW

Name: _____

Questions: Answer the questions below

1) A park is 120m by 80m. If 1cm equals 10m, what are the scaled dimensions of the park in the drawing?

2) A skyscraper is 320m tall. On a scaled drawing, it is represented as 8cm tall. What is the scale factor used in the drawing?

© Super Simple Sheets

Name: _____ 50

Curriculum Connection
E1.2

Drawing Buildings Using Scale Factors

Questions Use the grid to draw the dimensions of the buildings

1 square = 1cm

1) A building's base is 42m wide and 70m long. Use a scale factor of 1cm to 7m.

2) A [illegible] has a [illegible]th the following dimensions: 100m by [illegible]m. Us[illegible] act[illegible] of 1cm to 10m.

3) A building's base is 450cm long an[illegible] wid[illegible] a scale factor of 1cm:100cm.

4) A large building has a base of 240m by 80m. Use a scale factor of 1cm to 40 metres.

5) A building has a base of 140m by 50m. Use a scale factor of 1cm to 20m.

PREVIEW

© Super Simple Sheets

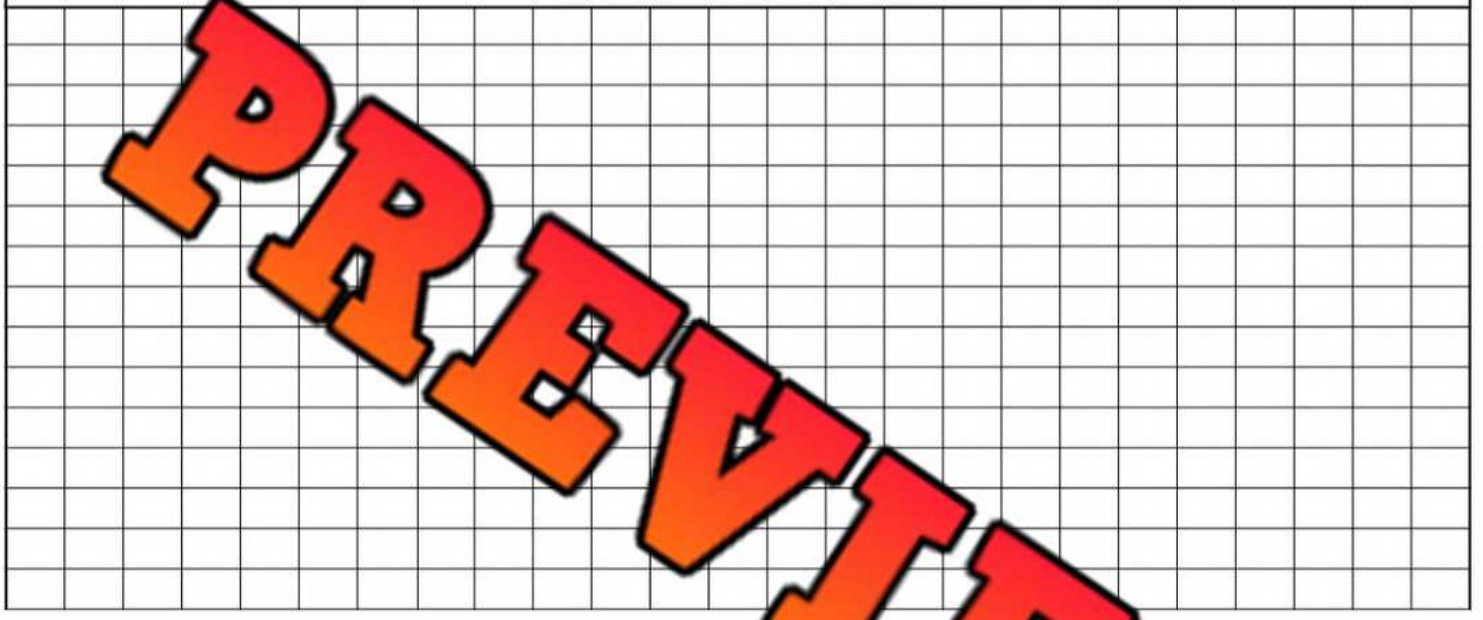
Name: _____ 52

Curriculum Connection
E1.2

Creating Scaled Drawings

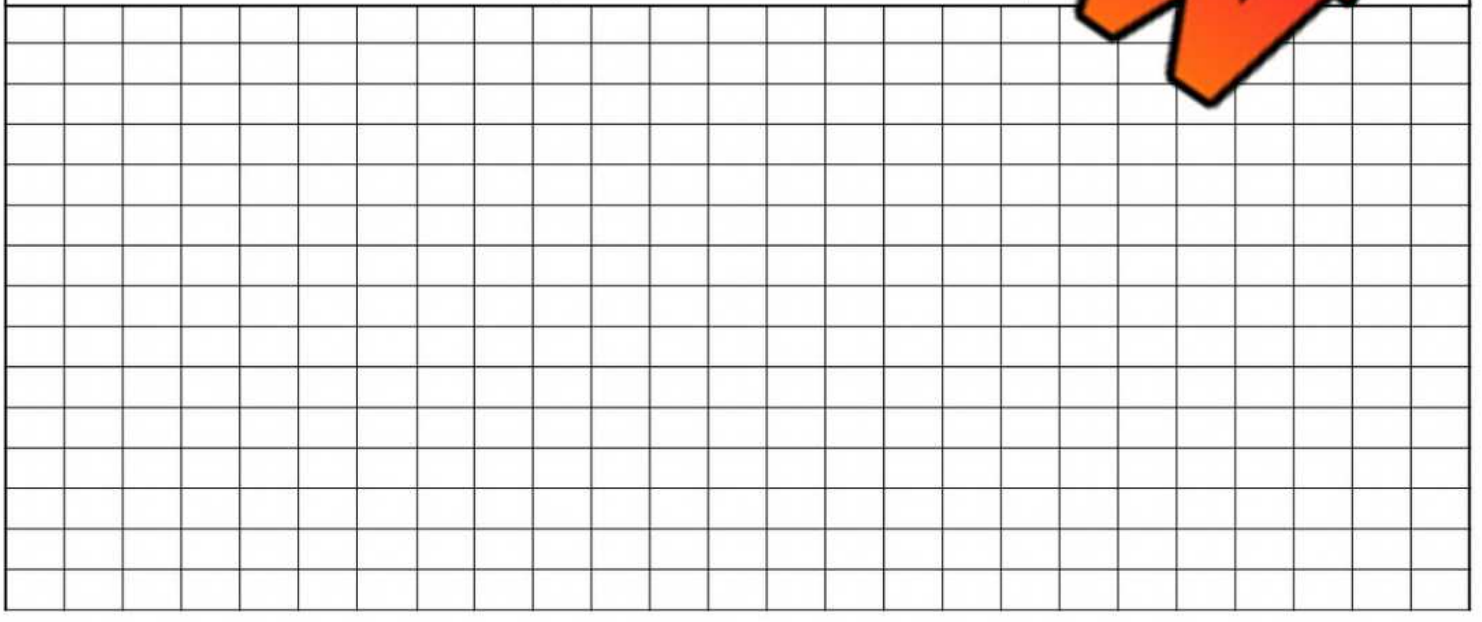
Questions Draw the objects on the grid by choosing an appropriate scale. 1 square = 1cm

1) Building 1: 24m by 16m	Building 2: 12m by 28m	Building 3: 52m by 12m
Car: 2m by 4m	Transport: 2m by 12m	Parking lot: 20m by 20m
Scale: _____		



2) Building 1: 36m by 12m	Building 2: 18m by 48	Build 2m by 33m
Parking lot 1: 12m by 12m	Parking lot 2: 21m by 30m	rki by 27m
Scale: _____		

PREVIEW



© Super Simple Sheets

Name: _____ 53

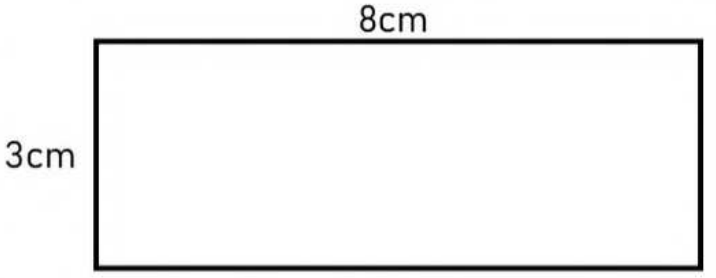
Curriculum Connection
E1.2

Determining the Scale Factor

Questions | Answer the questions below

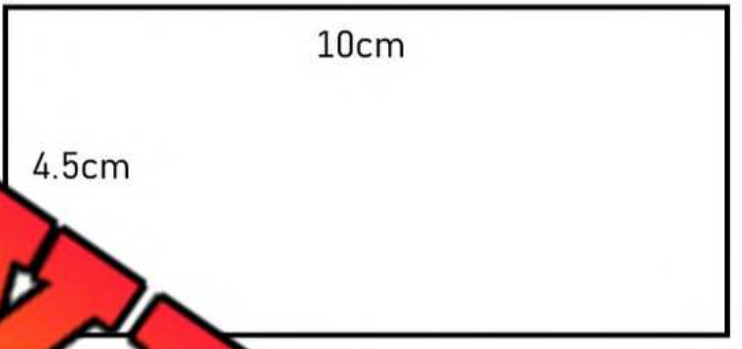
1) A park is 48m long and 18m wide. A scaled drawing was created to represent the park.

What scale was used in the drawing?



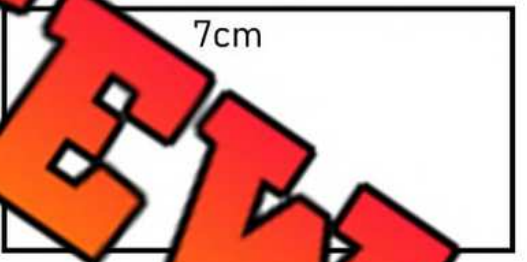
2) A table has the following dimensions: 100cm by 45cm. A scaled drawing was created to represent it.

What scale was used in the drawing?



3) A tabletop has the following dimensions: 140cm by 280cm. A scaled drawing was used to represent the tabletop.

What scale was used in the drawing?



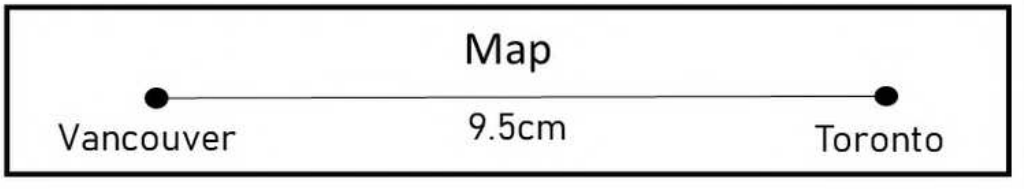
4) A computer monitor is 33 wide and 21cm tall. A scaled drawing was used to represent the monitor.

What scale was used in the drawing?



5) The distance from Vancouver to Toronto is 4,750km. Vincent measured the distance on a map and determined it was 9.5cm.

What scale was used on the map?



PREVIEW

© Super Simple Sheets

Name: _____ 55

Curriculum Connection
E1.2

Using Scale on Map of Canada

Questions | Print this using default settings to achieve a friendly scale



© Super Simple Sheets

Name: _____ 56

Curriculum Connection
E1.2

Using Scale on Map of Canada

Use the legend on the map of Canada to determine the distances between cities.

1) Measure the length of the scale provided on the legend. Use the kilometre measurement (not miles).
2) Determine the scale by comparing the length of the line to the measurement provided.

For example: km 0 100 200 300

The length of the line is 3cm total. This means 1cm = 100km.



Question: Use the scale to determine the distance from city to city

	City 1	City 2	Distance - cm	Distance - km
1)	Toronto			
2)	Winnipeg	Ottawa		
3)	Victoria	Regina		
4)	Kingston	Saskatoon		
5)	Vancouver	Charlottetown		
6)	Prince Rupert	St. John's		
7)	Calgary	Timmins		
8)	Thunder Bay	Moncton		
9)	Sudbury	Whitehorse		
10)	Dawson City	Brandon		
11)	Edmonton	Yellowknife		
12)	Iqaluit	Montreal		
13)	Halifax	Fort McMurray		

PREVIEW

© Super Simple Sheets

Name: _____ 57

Curriculum Connection
E1.3

Enlargement and Reductions

An **enlargement** is when we enlarge a shape by a scale factor to form a similar shape. A **reduction** is when we shrink a shape by a scale factor to form a similar shape. A **similar shape** is a shape that has the same angles, but the side lengths have been changed proportionally. For example, if we change the length by 2 times, we change the width by 2 times as well.

Questions e the scale factor to perform enlargements/reductions of the original shape

Ex.) Scale ... 2 (...large 2 times)

Orig...al (O)

Example A...

1) Scale Factor = 1:2

O

2) Scale Factor = 1:3

O

3) ...le Fa... 1:4

O

4) Scale Factor = 2:1 (reduction)

O

5) Scale Factor = 3:1

O

PREVIEW

© Super Simple Sheets

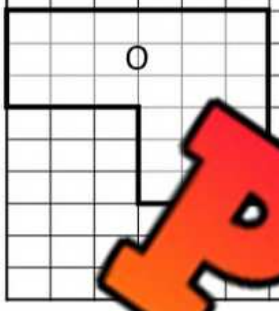
Name: _____ 58

Curriculum Connection
E1.3

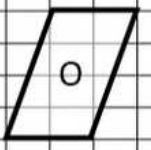
Enlargement and Reductions

Questions Use the scale factor to perform dilations of the original shape

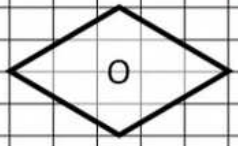
1) Scale Factor = 3:1



2) Scale Factor = 1:2



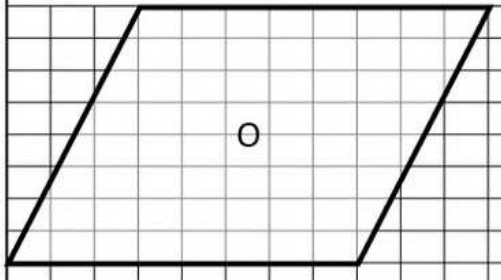
3) Scale Fac



4) Scale Factor = 2:1



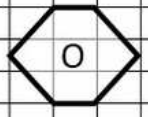
5) Scale Factor = 4:1



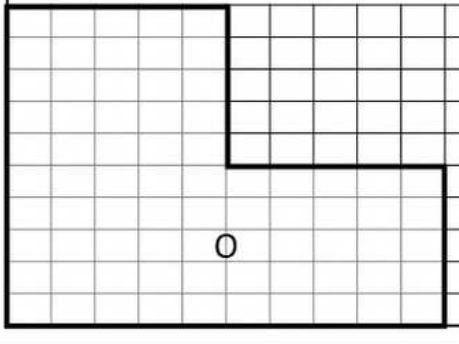
6)



7) Scale Factor = 1:3



8) Scale Factor = 5:1



PREVIEW

© Super Simple Sheets

Name: _____ 59

Curriculum Connection
E1.3

Intro to Dilations

A **dilation** is a transformation that stretches or shrinks a figure by a certain scale factor. Unlike translations, reflections, and rotations, a dilation does not produce a congruent image. Instead, a dilated image produces a similar figure that has the same shape with equal angles and proportional side lengths.

When the scale factor is greater than 1, we are **enlarging** the original figure. If it is less than 1, we are **reducing** the original figure.

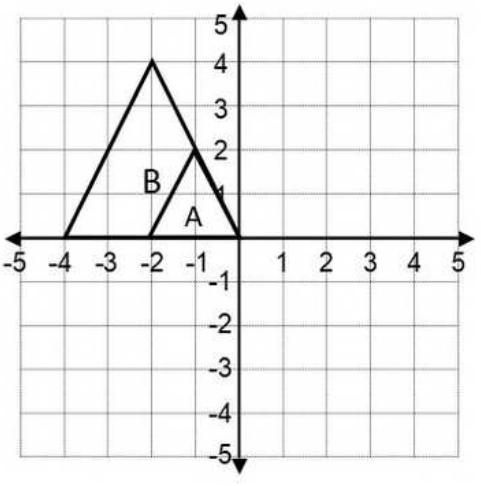
Part 1 St[illegible]er a dilation with the given scale factor is a reduction or enlargement

	Facto[illegible]	tion Type
1)	k = [illegible]	
2)	k = 0.5	
3)	$k = \frac{1}{4}$	
4)	k = 5	
5)	k = 0.25	

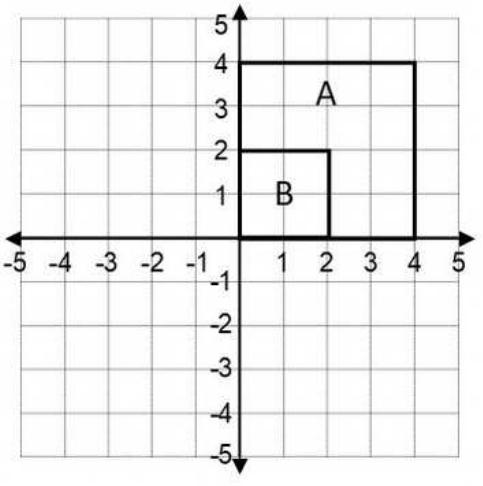
	Scale Factor	Dilation Type
6)	$k = \frac{3}{2}$	
7)	k = 3	
8)	k = 0.75	
9)	$k = \frac{1}{}$	
	[illegible]	

Part 2 Figure A is a dilated image of figure B. Is the dilati[illegible]duc[illegible]ement?

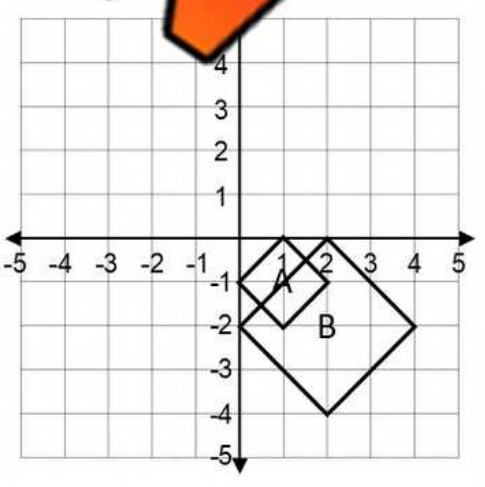
1)



2)



3)



_____ _____ _____

PREVIEW

© Super Simple Sheets

Curriculum Connection
E1.3

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Questions: Answer the questions below

1) **Scale Factor**: k = 7/3 _____

State whether the dilation is a reduction or enlargement

2) **Scale Factor**: k = 2/5 _____

Is the resulting figure larger or smaller than the original figure?

3) **Scale Factor**: k = 1 _____

Does the figure change in size?

4) **Scale Factor**: k = 0.6 _____

Is the figure reduced or enlarged? What percentage of the original size is the resulting figure?

Name: _____

Questions: Answer the questions below

1) **Scale Factor**: k = 7/3 _____

State whether the dilation is a reduction or enlargement

2) **Scale Factor**: k = 2/5 _____

Is the resulting figure larger or smaller than the original figure?

3) **Scale Factor**: k = 1 _____

Does the figure change in size?

4) **Scale Factor**: k = 0.6 _____

Is the figure reduced or enlarged? What percentage of the original size is the resulting figure?

Name: _____

Questions: Answer the questions below

1) **Scale Factor**: k = 7/3 _____

State whether the dilation is a reduction or enlargement

2) **Scale Factor**: k = 2/5 _____

Is the resulting figure larger or smaller than the original figure?

3) **Scale Factor**: k = 1 _____

Does the figure change in size?

4) **Scale Factor**: k = 0.6 _____

Is the figure reduced or enlarged? What percentage of the original size is the resulting figure?

Name: _____

Questions: Answer the questions below

1) **Scale Factor**: k = 7/3 _____

State whether the dilation is a reduction or enlargement

2) **Scale Factor**: k = 2/5 _____

Is the resulting figure larger or smaller than the original figure?

3) **Scale Factor**: k = 1 _____

Does the figure change in size?

4) **Scale Factor**: k = 0.6 _____

Is the figure reduced or enlarged? What percentage of the original size is the resulting figure?

PREVIEW

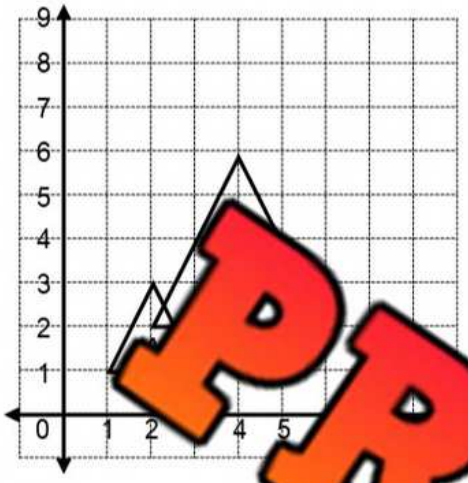
© Super Simple Sheets

Name: _____ 62

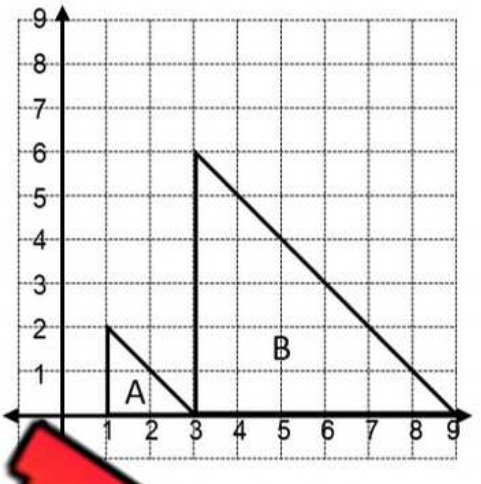
Curriculum Connection
E1.3

Dilations – Determining Scale Factors

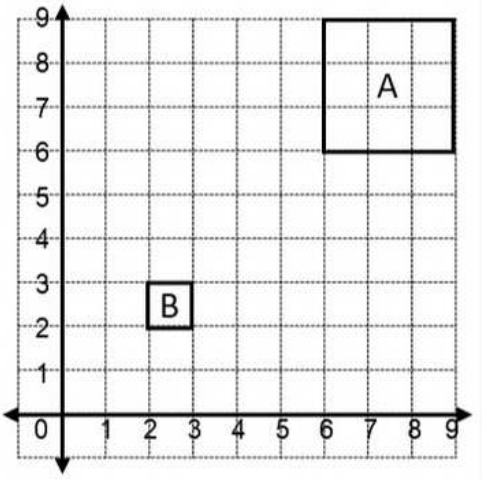
Questions Is the dilation an enlargement or reduction? Find the scale factor.



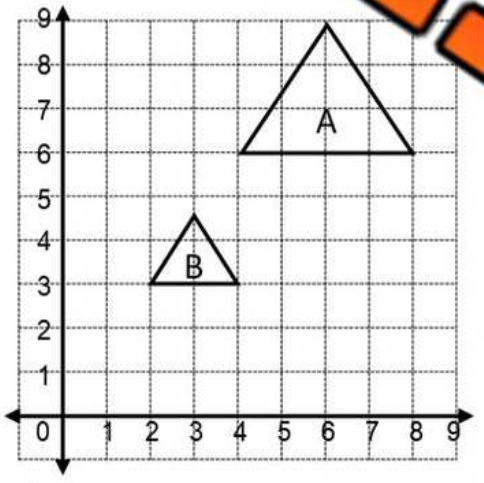
1) _____ k = ____



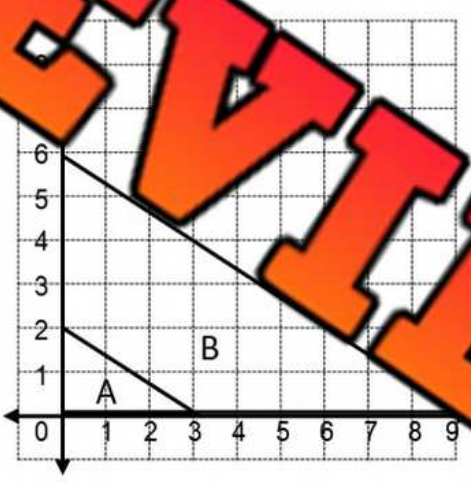
2) _____ k = ____



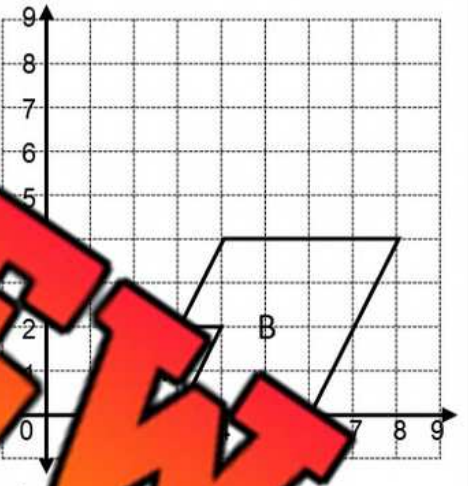
3) _____ k = ____



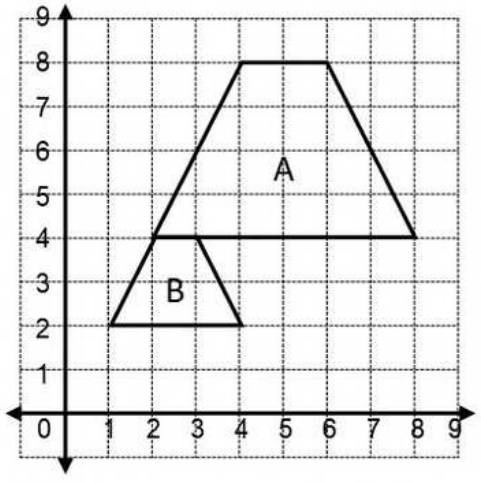
4) _____ k = ____



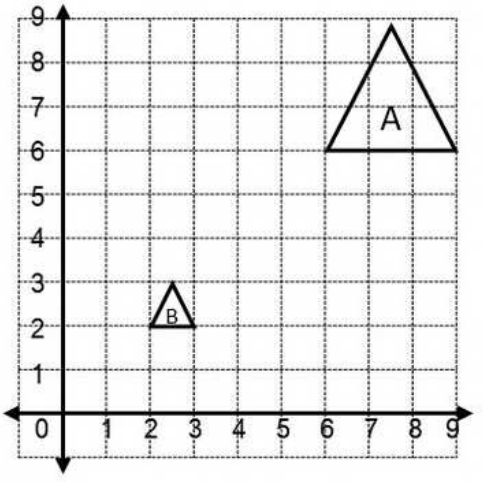
5) _____ k = ____



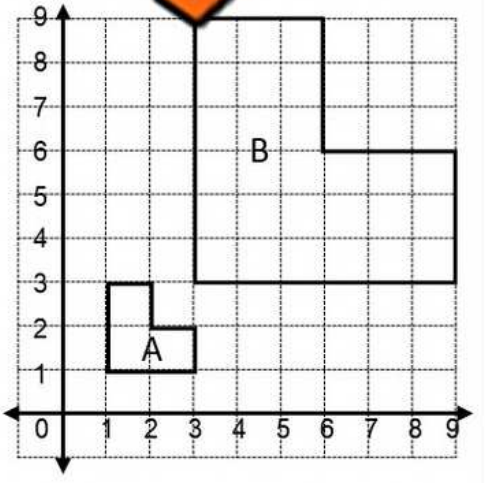
6) _____ k = ____



7) _____ k = ____



8) _____ k = ____



9) _____ k = ____

PREVIEW

© Super Simple Sheets

Name: _____ 64

Curriculum Connection
E1.3

Dilations – Finding New Coordinates

Determine the new coordinates by multiplying the given coordinates by the scale factor.

Part 1 Find the dilated coordinates of the triangles below

1) k = 3	Coordinate A	Coordinate B	Coordinate C
Original C…nates	(2, 5)	(-2, 3)	(0, 0)
Dilated …			

2) … = 1/2	…ordinate A	Coordinate B	Coordinate C
Original Coor…		(-2, 4)	(4, 6)
Dilated Coordinate…			

3) k = 1.5	C…nate	…rdinate B	Coordinate C
Original Coordinates	(4, -2)	…6)	(2, -4)
Dilated Coordinates			

Part 2 Find the dilated coordinates of the q…rals b…

1) k = 2	Coordinate A	Coordinate B	Co…rdin…	…te D
Original Coordinates	(-3, 6)	(-1, 2)	(3, …)	(-2, 4)
Dilated Coordinates				

2) k = 3	Coordinate A	Coordinate B	Coordinate C	Coordinate D
Original Coordinates	(2, 6)	(-1, 4)	(3, 5)	(1, -4)
Dilated Coordinates				

3) k = 1/2	Coordinate A	Coordinate B	Coordinate C	Coordinate D
Original Coordinates	(4, 4)	(-2, 4)	(6, -2)	(8, -4)
Dilated Coordinates				

PREVIEW

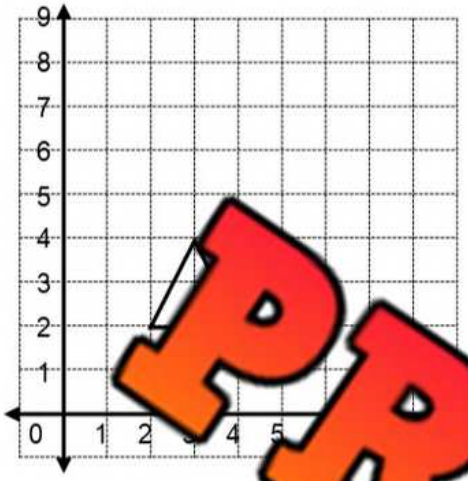
© Super Simple Sheets

Name: _____ 65

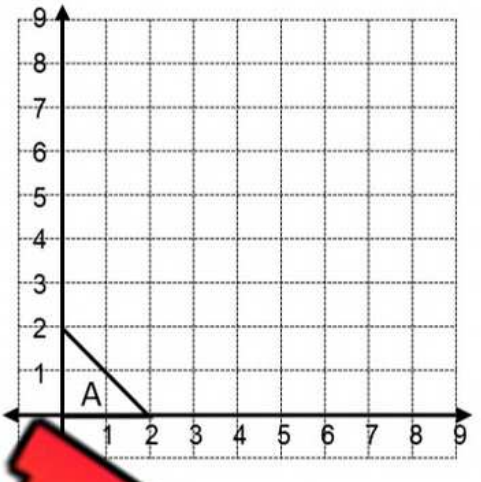
Curriculum Connection
E1.3

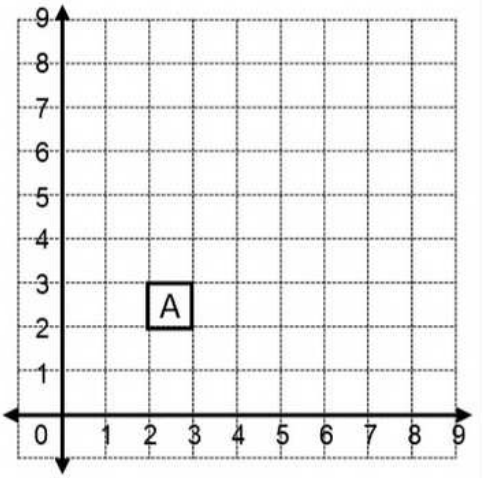
Performing Dilations

Instructions Draw the dilated shape on the grid

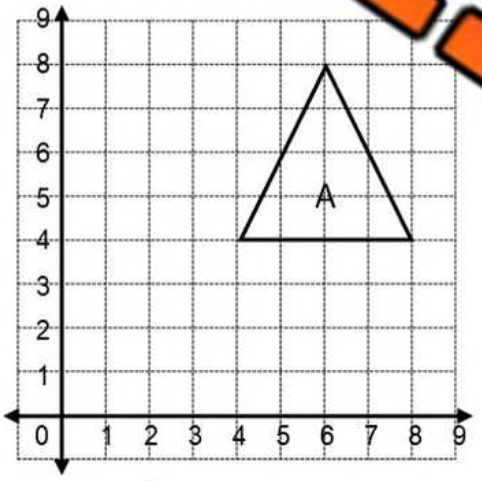


1) k = 2

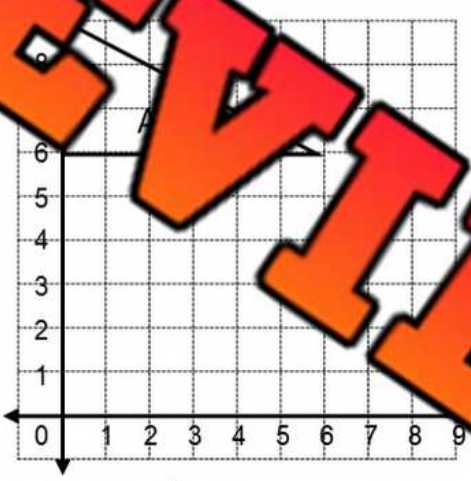




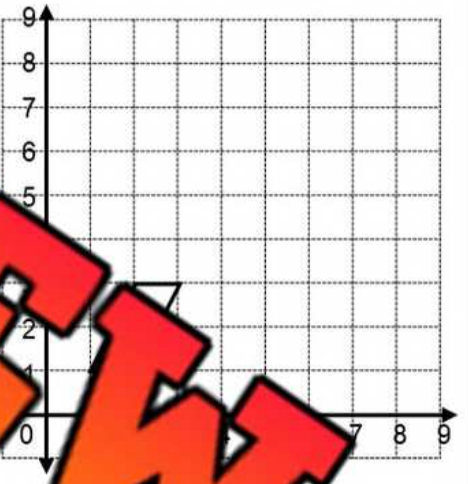
3) k = 3



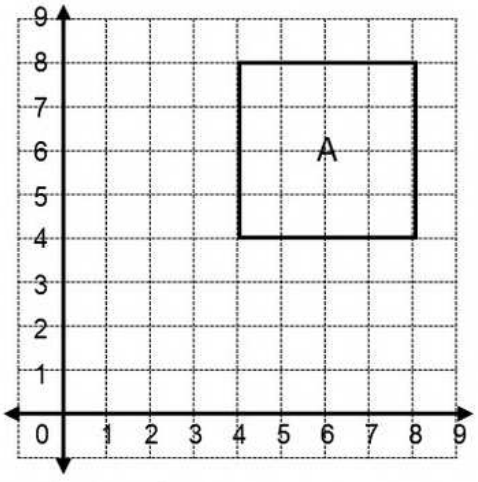
4) $k = \frac{1}{2}$



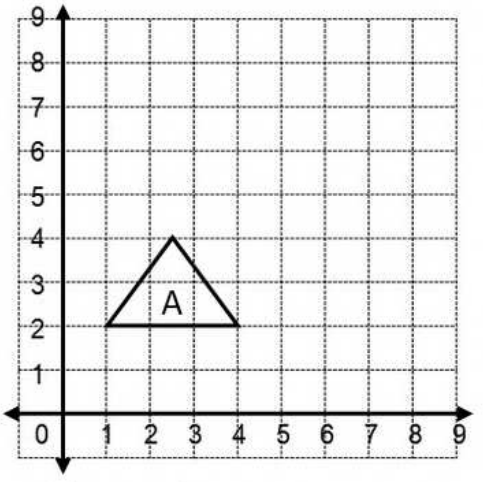
5) $k = \frac{1}{3}$



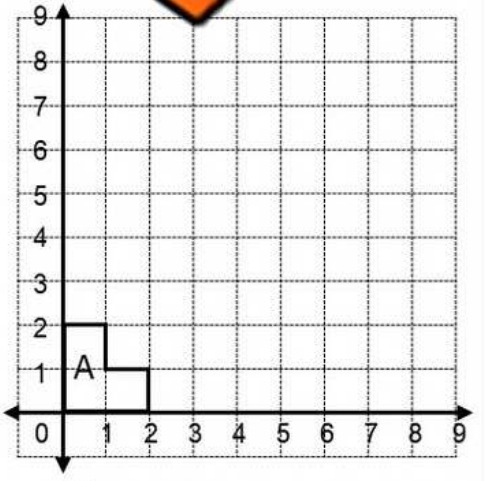
6) k =



7) k = 0.5



8) k = 2



9) k = 3

PREVIEW

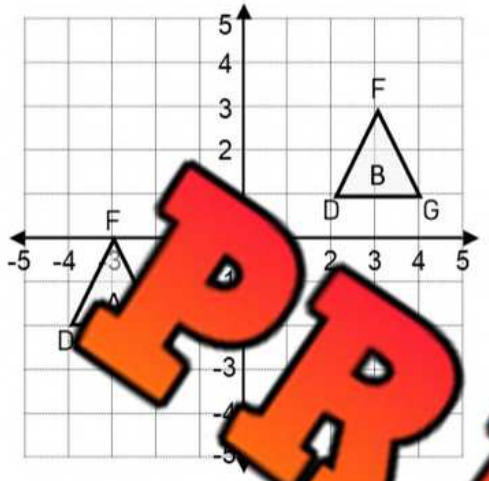
© Super Simple Sheets

Name: _____ 69

Curriculum Connection
E1.4

Transformations - Translations

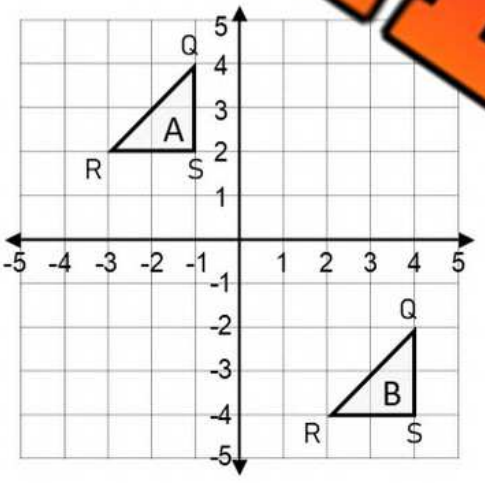
Instructions 1) Fill in the coordinates 2) Describe the translation 3) Translate shape C



Coordinates A	Coordinates B

Describe the translation

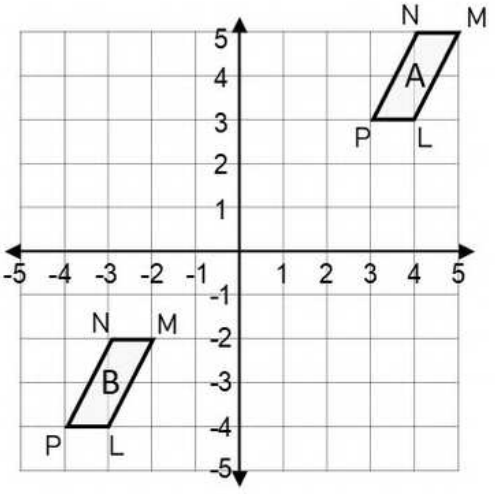
Translate Shape C from Shape B Left 3 units and up 2 units	Coordinates C



Coordinates A	Coordinates B

Describe the translation

Translate Shape C from Shape B Left 7 units and up 2 units	Coordinates C



Coordinates A	Coordinates B

Describe the translation

Translate Shape C from Shape B Right 5 units and up 3 units	Coordinates C

PREVIEW

© Super Simple Sheets

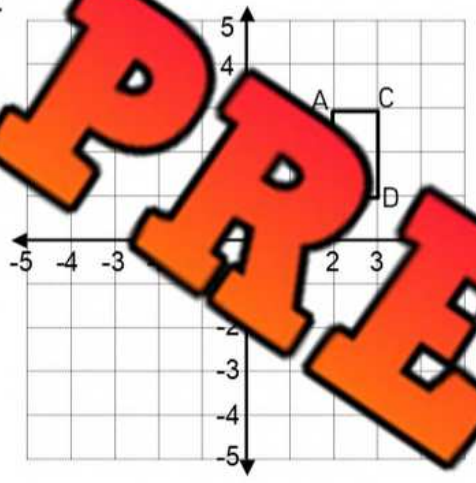
Curriculum Connection
E1.4

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

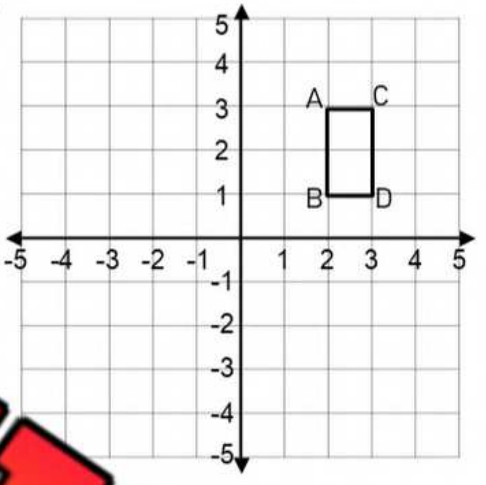
Translate the shape using the mapping rule.



Translate Shape
Left 3 units and up 2 units

Name: _____

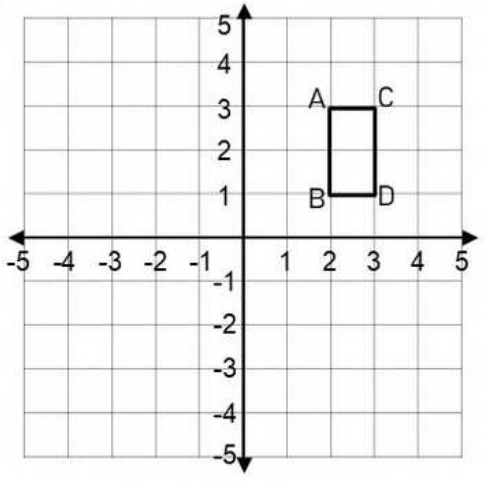
Translate the shape using the mapping rule.



Translate Shape
Left 3 units and up 2 units

Name: _____

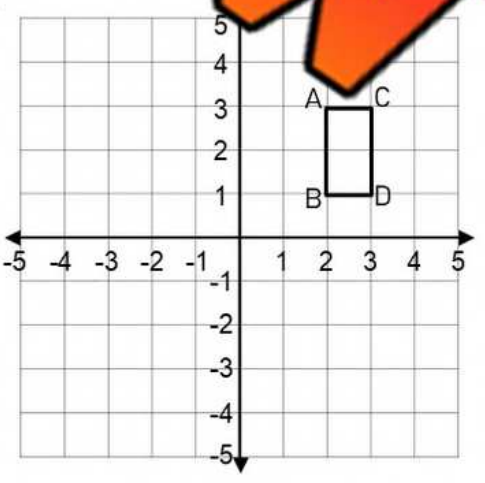
Translate the shape using the mapping rule.



Translate Shape
Left 3 units and up 2 units

Name: _____

Translate the shape using the mapping rule.



Translate Shape
Left 3 units and up 2 units

PREVIEW

© Super Simple Sheets

Name: _____ 71

Curriculum Connection
E1.4

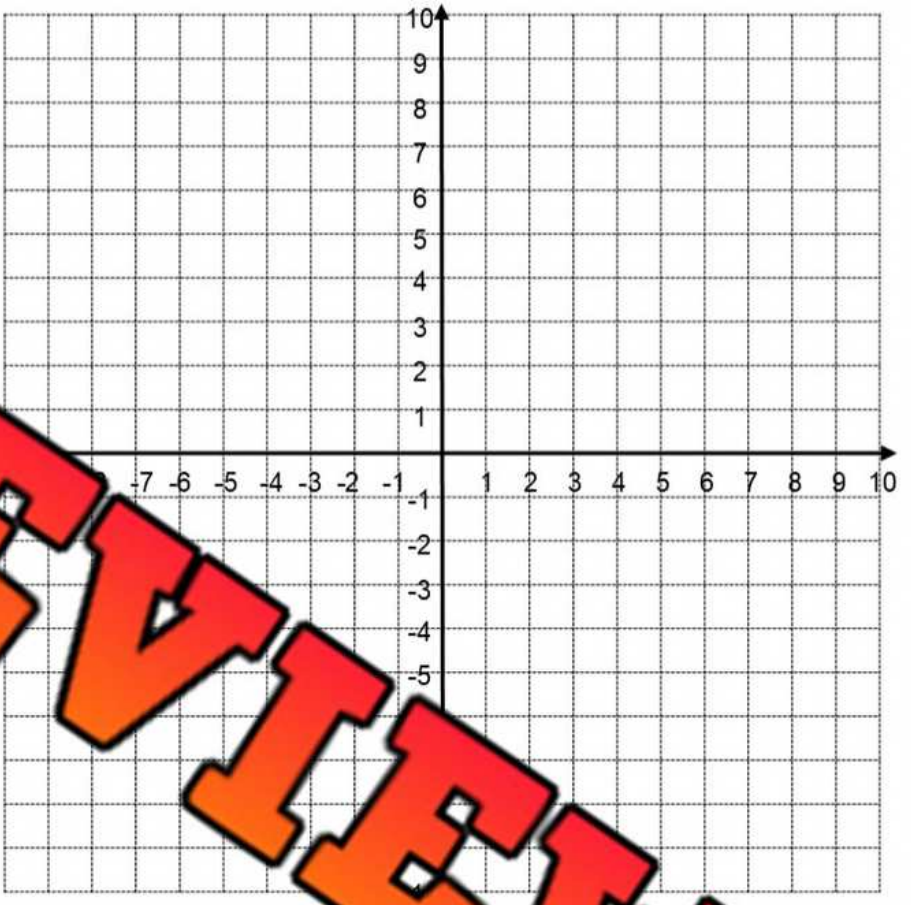
Translations – New Coordinates

Part 1 Draw the shapes using the coordinates provided. Then translate the shape

Shape A
P(1,4), Q(2,2), R(7,2), S(8,4)
Trans[illegible] the Shape A
[illegible]p 3

Shape [illegible]
F(-8,4), G([illegible]
Translate th[illegible] B
Right 3, down [illegible]

Shape C
J(-9,-8), K(-4,-5), L(-0,-8)
Translate the Shape C
Right 5, up 2



PREVIEW

Part 2 Give the coordinates of each point after the translat[illegible]

	Original Coordinate	Translation	New [illegible]inates
1)	P(5, -2)	Left 7, down 3	P(-2, -5)
2)	S(-3, 7)	Right 4, up 6	
3)	Q(-6, -2)	Left 2, down 5	
4)	L(8, -4) P(-5, 11)	Right 6, down 4	
5)	T(-10, 9) Y(-12, -8)	Left 12, up 11	
6)	S(-15, -12) R(13, 11)	Left 15, down 9	
7)	N(-22, 9) K(18, -13)	Right 19, down 17	
8)	P(26, -23) E(-21, 21)	Right 23, down 22	

© Super Simple Sheets

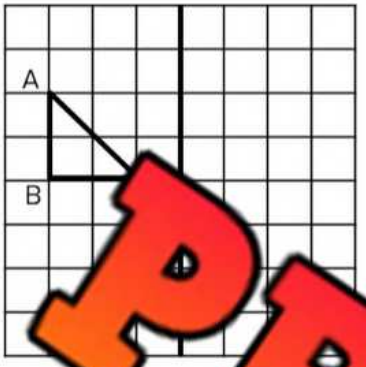
Name: _____ 72

Curriculum Connection
E1.4

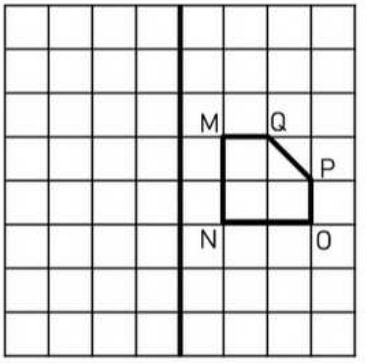
Drawing Reflections

Instructions Reflect the shapes across the mirror line

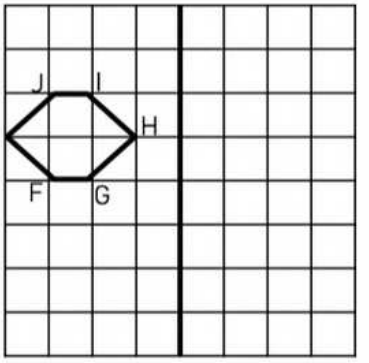
1)



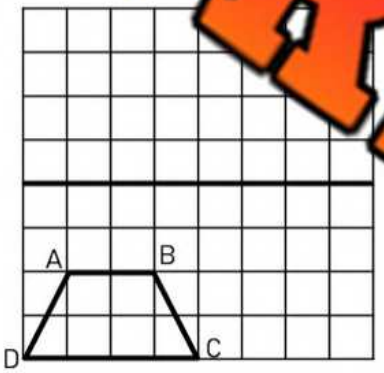
2)



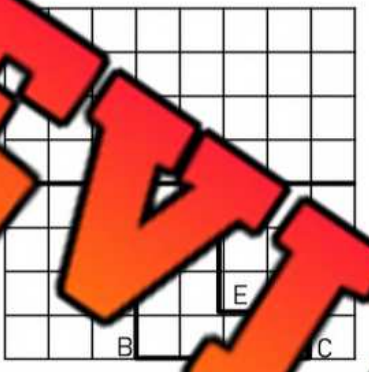
3)



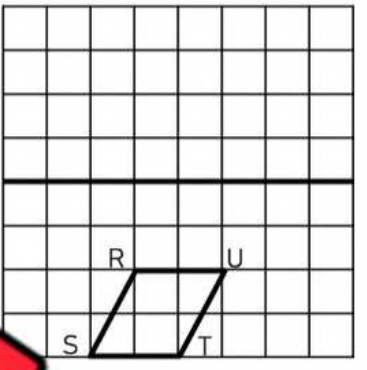
4)



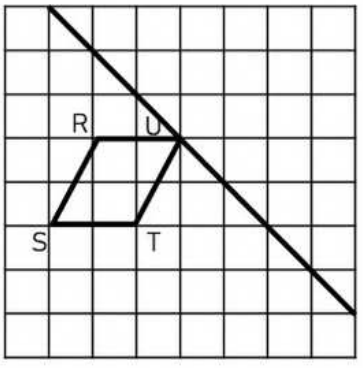
5)



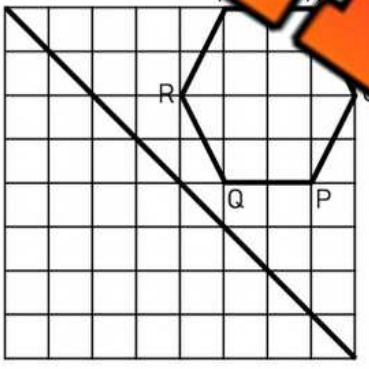
6)



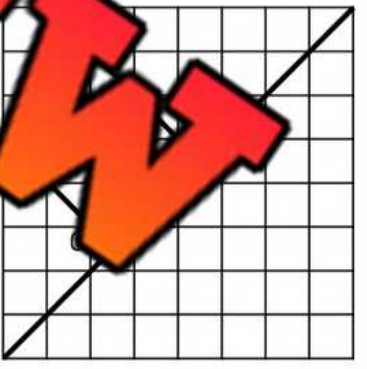
7)



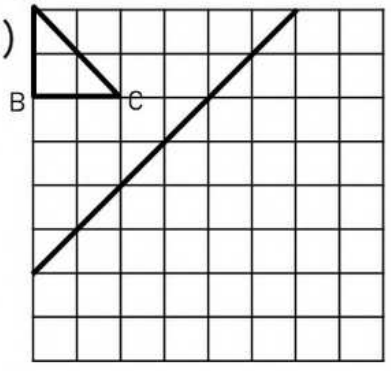
8)



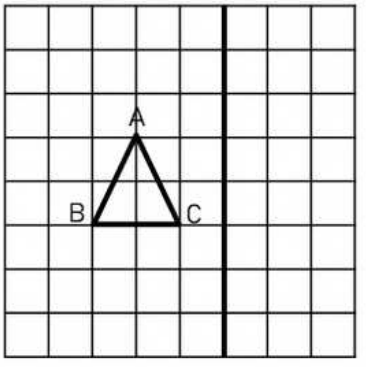
9)



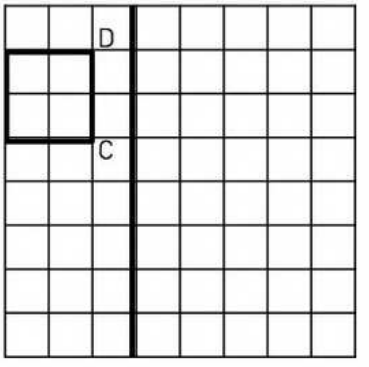
10)



11)



12)



PREVIEW

© Super Simple Sheets

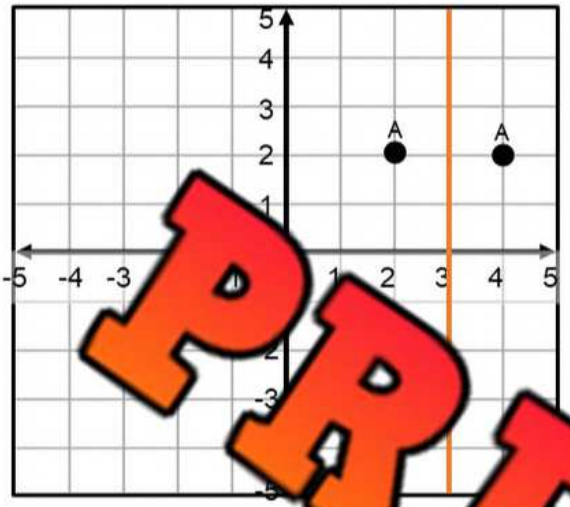
Name: _____ 73

Curriculum Connection
E1.4

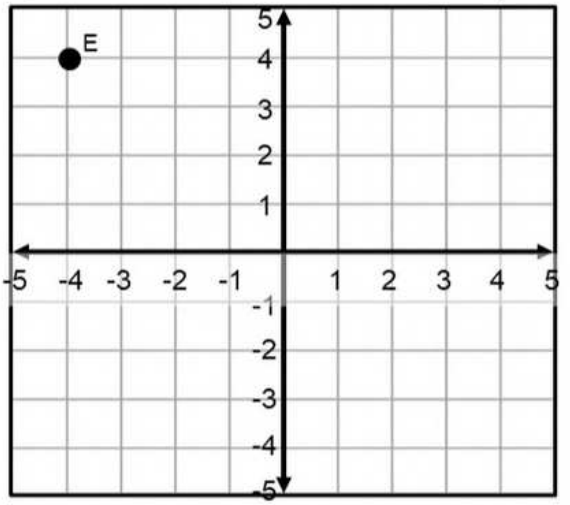
Reflecting a Point Using a Mirror Line

Instructions Graph the new position of each point. The first one is done for you

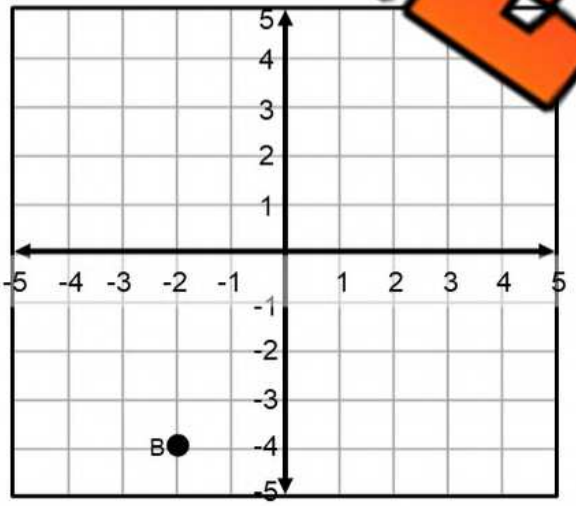
1) Reflection across the line x = 3



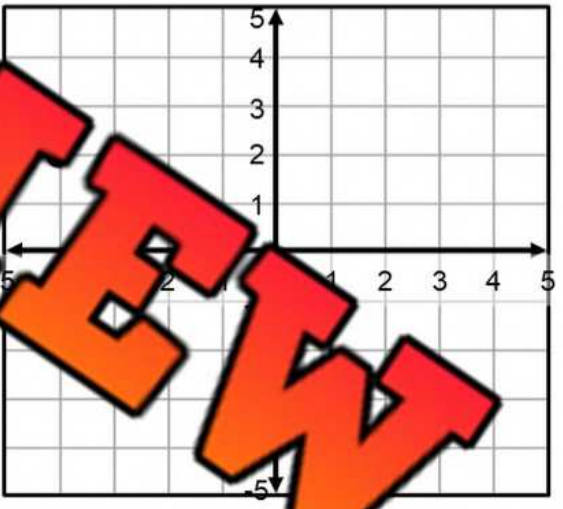
2) Reflection across the line y = 2



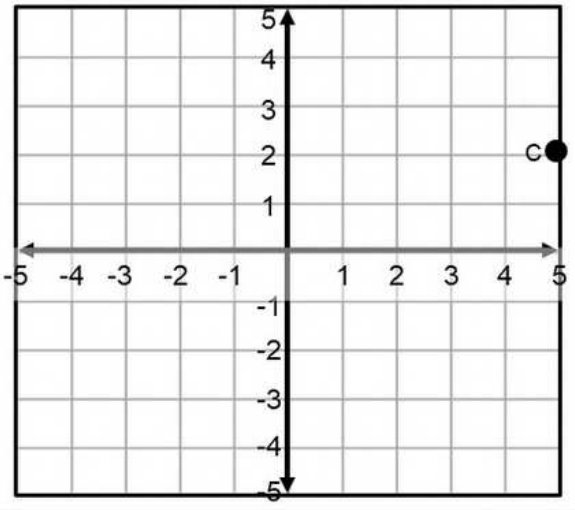
3) Reflection across th[illegible]



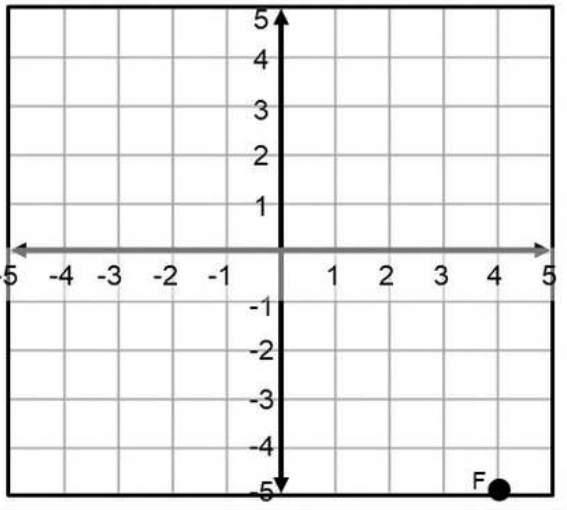
4) Reflection across the line x = -1



5) Reflection across the line x = 2



6) Reflection acro[illegible] the line y = -3



PREVIEW

© Super Simple Sheets

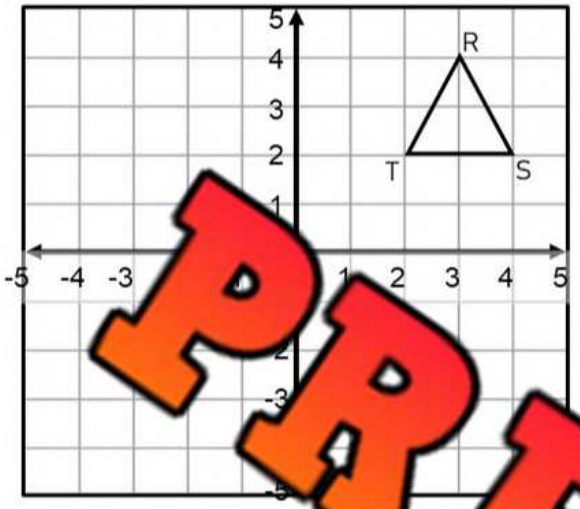
Name: _____ 75

Curriculum Connection
E1.4

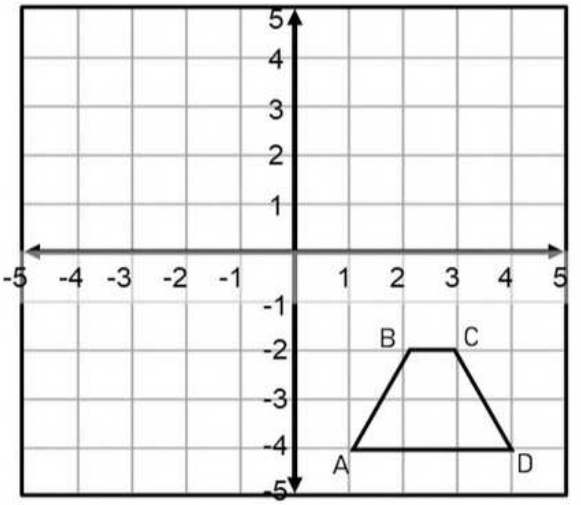
Reflecting a Shape Using a Mirror Line

Instructions Graph the new position of each shape after the given reflection

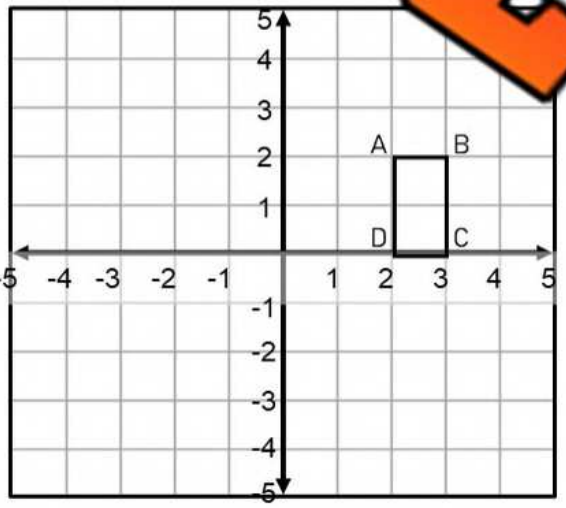
1) Reflection across the y-axis



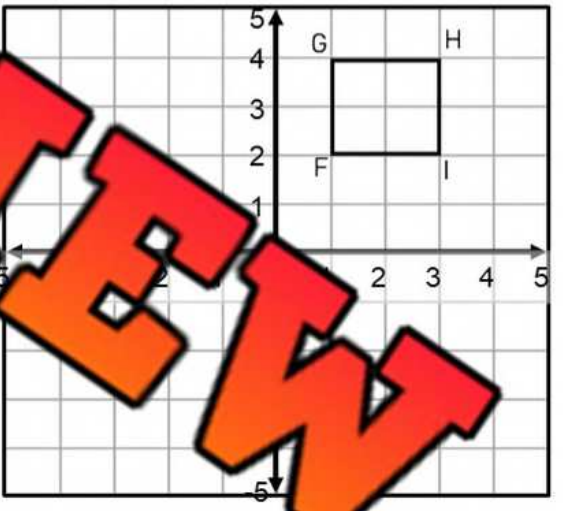
2) Reflection across the x-axis



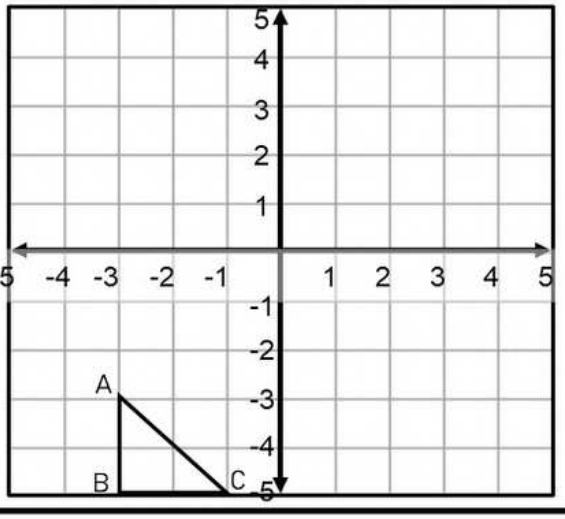
3) Reflection across th[illegible]



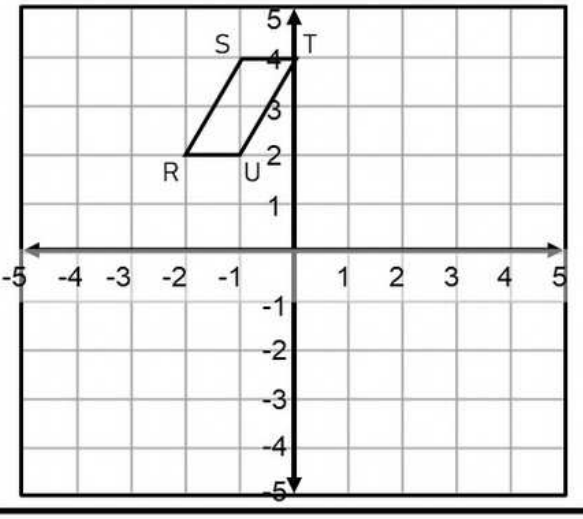
4) Reflection across the line x = -1



5) Reflection across the line y = -1



6) Reflection across the line x = 1



PREVIEW

© Super Simple Sheets

Name: _____ 77

Curriculum Connection
E1.4

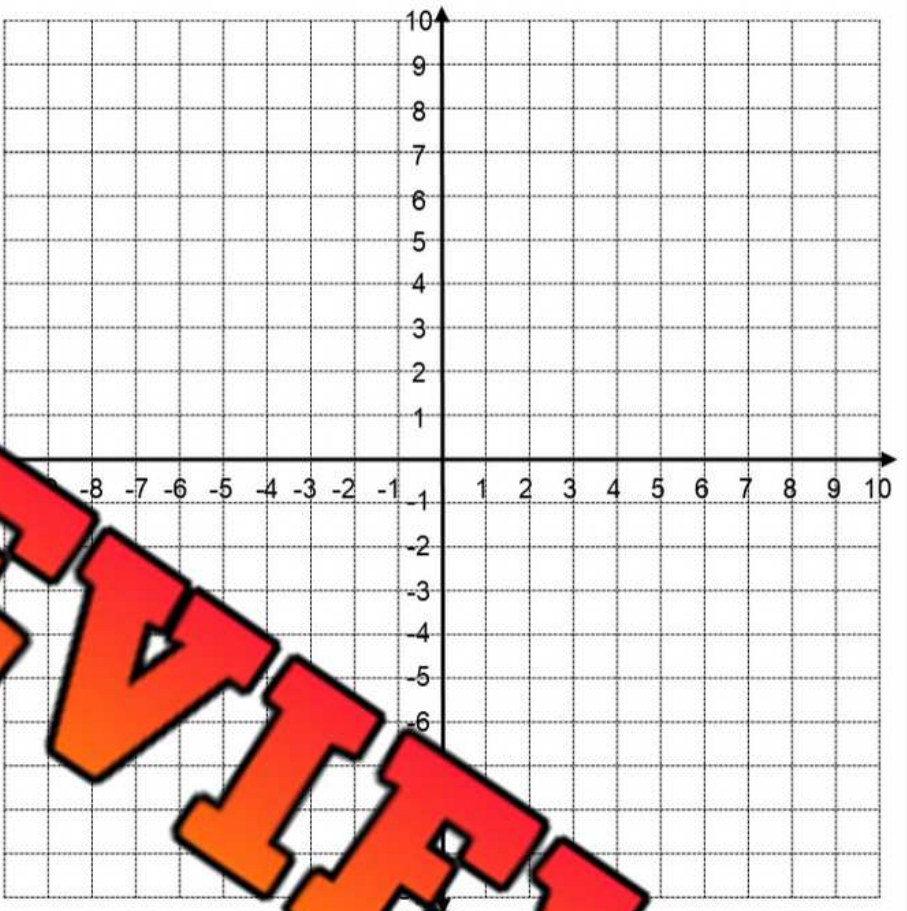
Reflections – Coordinates

Part 1 Draw the shapes using the coordinates provided. Then reflect the shapes

Shape A
P(6,4), Q(2,2), R(7,2)
Reflect over the x-axis
New Coordinates
P(,), Q(,), R(,)

Shape B
F(,), G(-4,)
Reflect o
New Coord
F(,), G(,), H(,)

Shape C
J(-3,-9), K(-5,-2), L(-9,-5)
Reflect over the y-axis
New Coordinates
J(,), K(,), L(,)



PREVIEW

Part 2 Give the coordinates of each point after the refle

	Original Coordinate	Reflection across the line...	New dinates
1)	P(5, 4)	y-axis	P(5,-4)
2)	S(3, 6)	x-axis	
3)	Q(-4, 5)	y-axis	
4)	P(-7, -1)	y-axis	
5)	T(-8, 6) Y(-5, -7)	x-axis	
6)	S(-13, -10) R(9, 12)	x-axis	
7)	N(-5, 5) K(6, -7)	y-axis	
8)	P(6, -3) E(-6, 5)	x-axis	

© Super Simple Sheets

Name: _____ 84

Curriculum Connection
E1.4

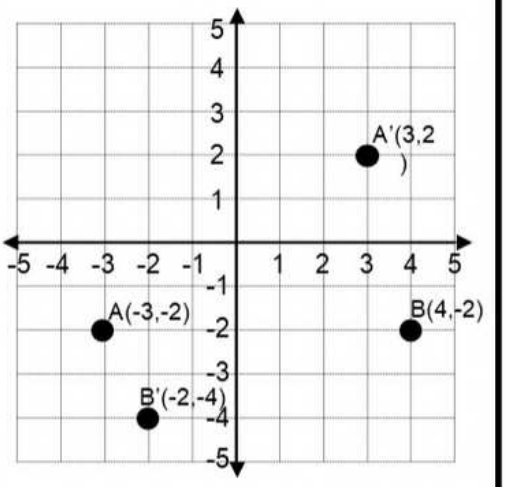
Rotating a Point

Mapping Rules for Rotations

Each point on a shape moves according to the mapping rule.

- a shape rotated 90° counterclockwise has a mapping rule of: $(x, y) \rightarrow (-y, x)$.
- a shape rotated 180° counterclockwise has a mapping rule of: $(x, y) \rightarrow (-x, -y)$.
- a shape rotated 270° counterclockwise has a mapping rule of: $(x, y) \rightarrow (y, -x)$.

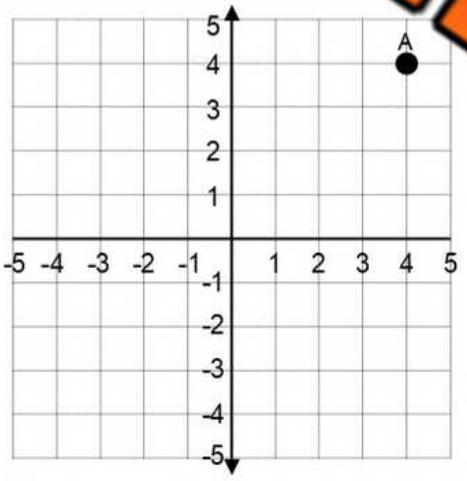
In the example above, A was rotated 180° counter-clockwise
In the example above, B was rotated 90° clockwise.



PREVIEW

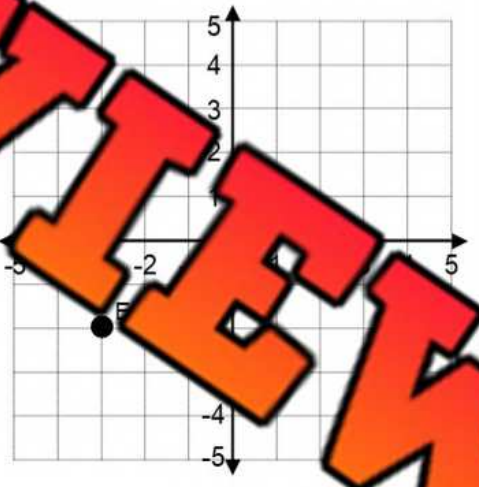
Instructions Graph the new position after rotating around the origin

1) 90° clockwise rotation



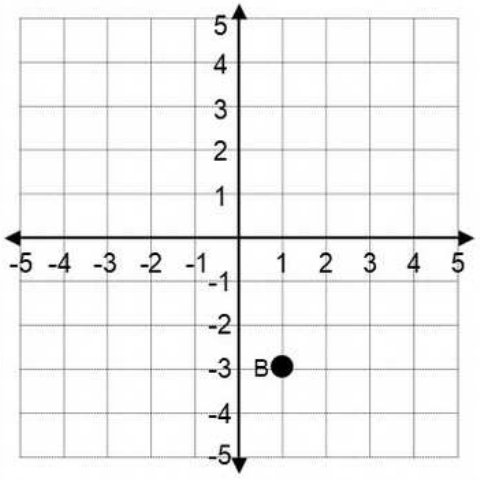
Original Coordinates
A(,)
Rotated Coordinates
A(,)

2) 90° counterclockwise rotation



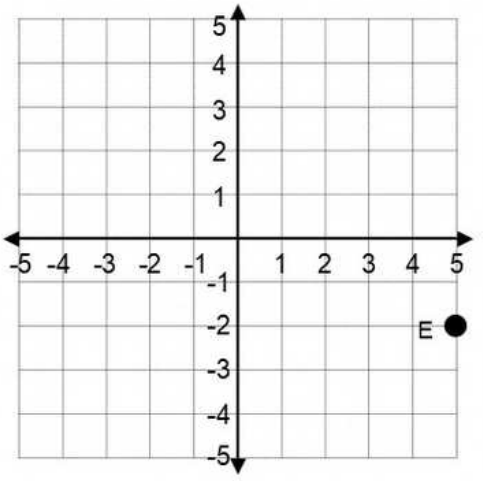
Original Coordinates
E(,)
Rotated Coordinates
( )

3) 180° rotation



Original Coordinates
B(,)
Rotated Coordinates
B(,)

4) 90° clockwise rotation



Original Coordinates
E(,)
Rotated Coordinates
E(,)

© Super Simple Sheets

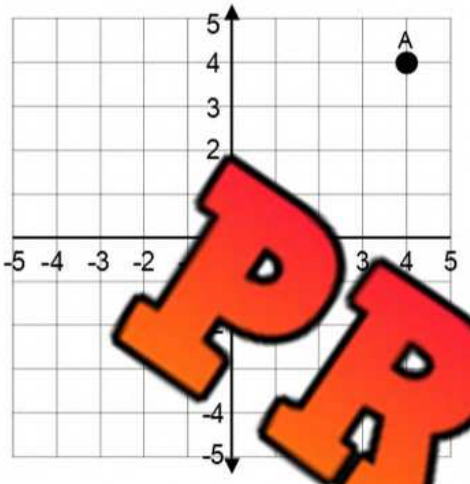
Name: _____ 86

Curriculum Connection
E1.4

Rotating a Point

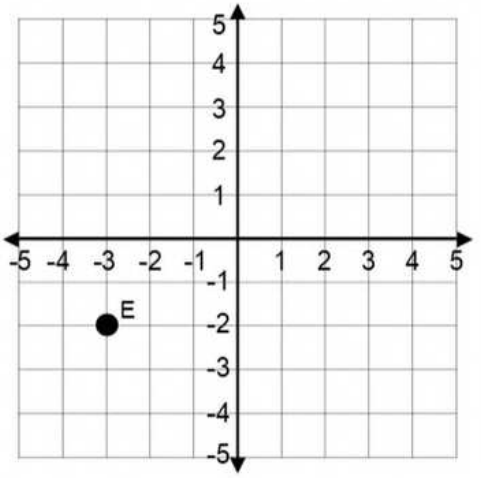
Instructions Graph the new position after rotating around the origin

1) 90° clockwise rotation



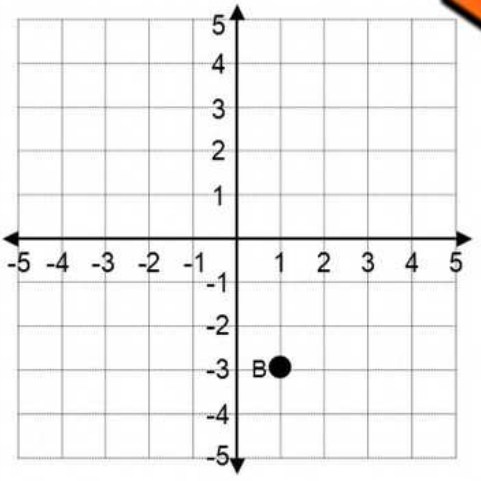
Original Coordinates
A(,)
Rotated Coordinates
(,)

2) 90° counterclockwise rotation



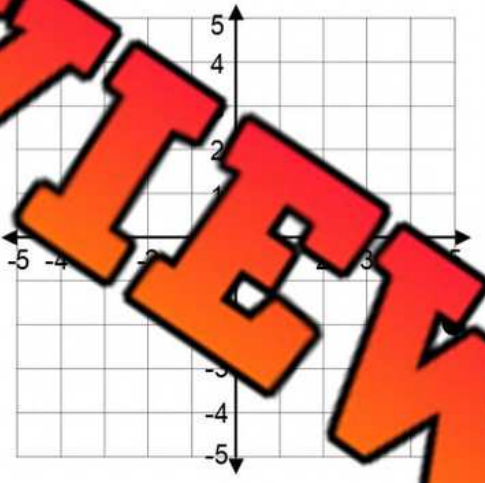
Original Coordinates
E(,)
Rotated Coordinates
E(,)

3) 180° rotation



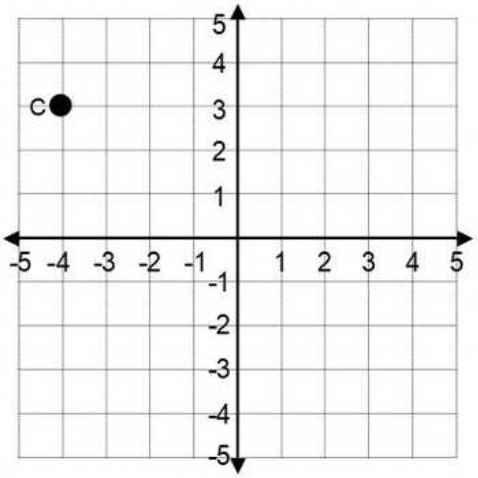
Original Coordinates
B(,)
Rotated Coordinates
B(,)

4) 90° clockwise rotation



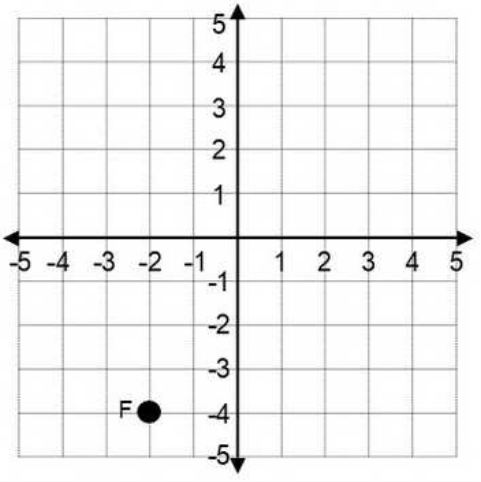
Original Coordinates
E(,)
Rotated Coordinates
(,)

5) 90° counterclockwise rotation



Original Coordinates
C(,)
Rotated Coordinates
C(,)

6) 180° rotation



Original Coordinates
F(,)
Rotated Coordinates
F(,)

PREVIEW

© Super Simple Sheets

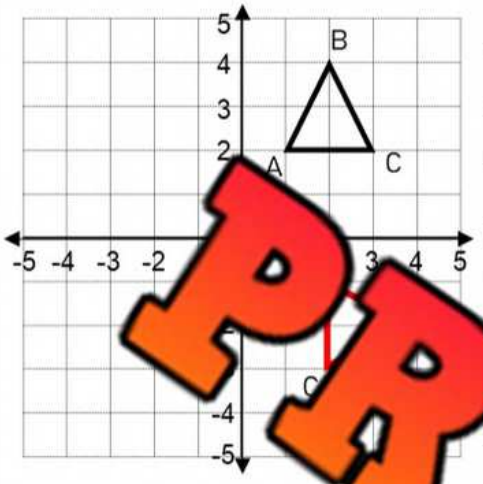
Name: _____ 87

Curriculum Connection
E1.4

Rotating Shapes

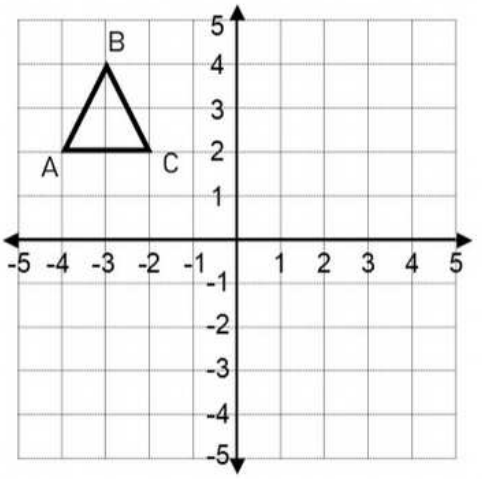
Instructions Graph the new position of each shape after the given rotation

1) 90° clockwise rotation



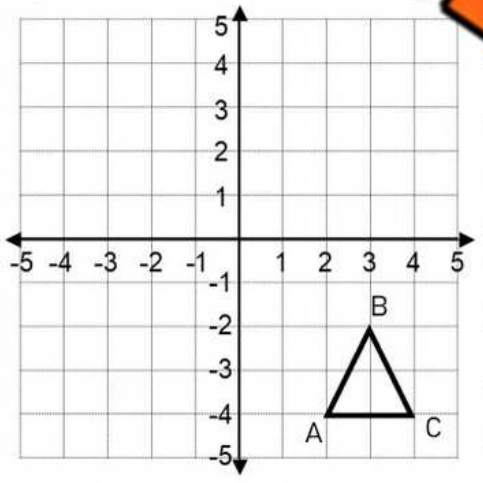
Original Coordinates
A(1, 2)
B(2, 4)
C(3, 2)
Rotated Coordinates
A(2, -1)

2) 90° counterclockwise rotation



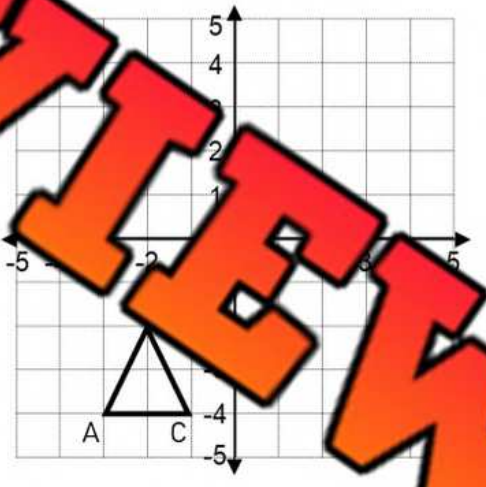
Original Coordinates
A(,)
B(,)
C(,)
Rotated Coordinates
A(,)
B(,)
C(,)

3) 180° rotation



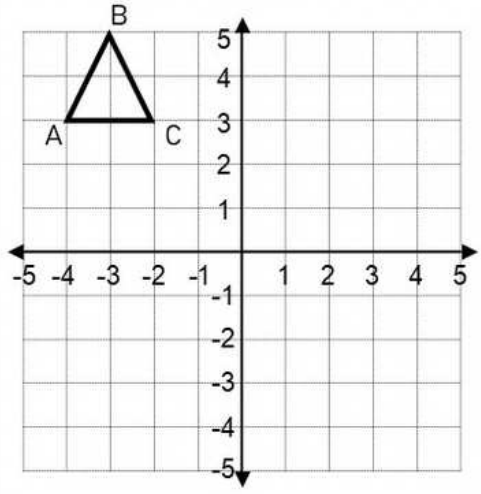
Original Coordinates
A(,)
B(,)
C(,)
Rotated Coordinates
A(,)
B(,)
C(,)

4) 90° clockwise rotation



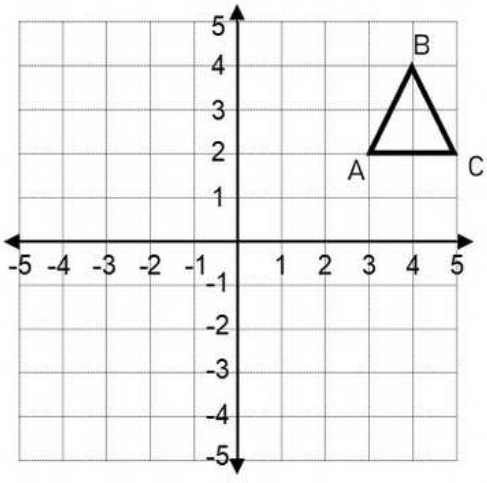
Original Coordinates
A(,)
B(,)
C(,)
Rotated Coordinates
A(,)
B(,)
C(,)

5) 90° clockwise rotation



Original Coordinates
A(,)
B(,)
C(,)
Rotated Coordinates
A(,)
B(,)
C(,)

6) 90° counterclockwise rotation



Original Coordinates
A(,)
B(,)
C(,)
Rotated Coordinates
A(,)
B(,)
C(,)

PREVIEW

© Super Simple Sheets

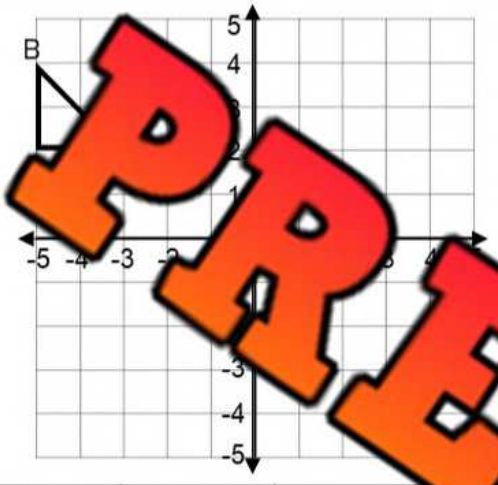
Curriculum Connection
E1.4

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

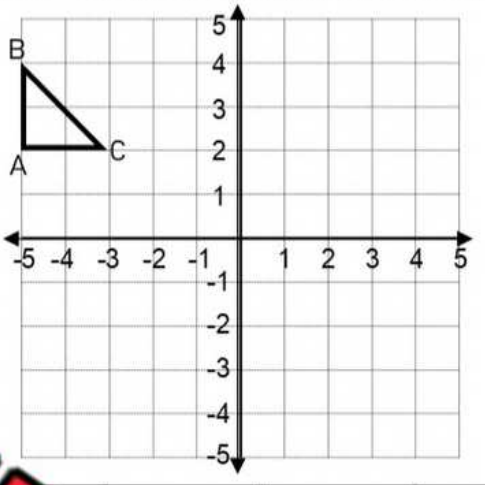
Graph the new position of shape after the 180° counterclockwise rotation.



Original	A(,)	B(,)	C(,)
Rotated	A(,)	B(,)	C(,)

Name: _____

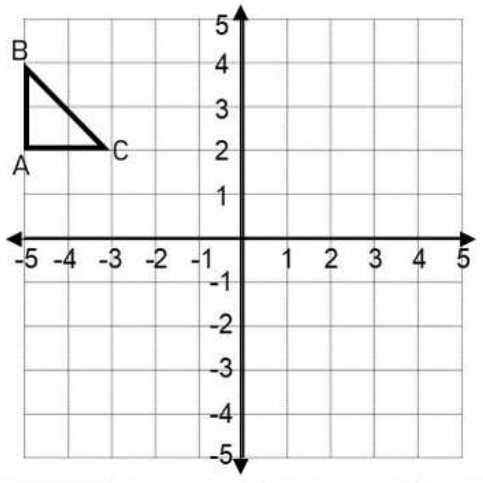
Graph the new position of shape after the 180° counterclockwise rotation.



C	A(,)	B(,)	C(,)
ed	)	B(,)	C(,)

Name: _____

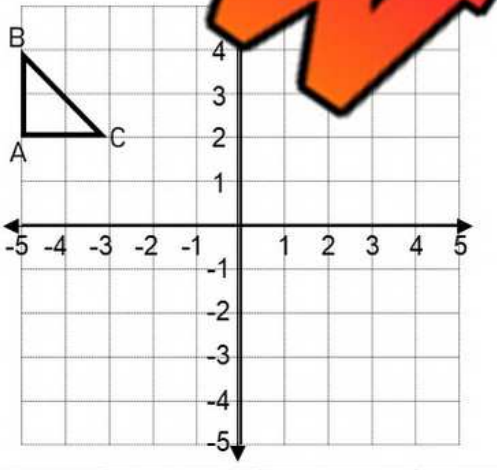
Graph the new position of shape after the 180° counterclockwise rotation.



Original	A(,)	B(,)	C(,)
Rotated	A(,)	B(,)	C(,)

Nam _____

Graph t osi p ha after the 180° co erc p



Original	A(,)	B(,)	C(,)
Rotated	A(,)	B(,)	C(,)

PREVIEW

© Super Simple Sheets

Name: _____ 90

Curriculum Connection
E1.4

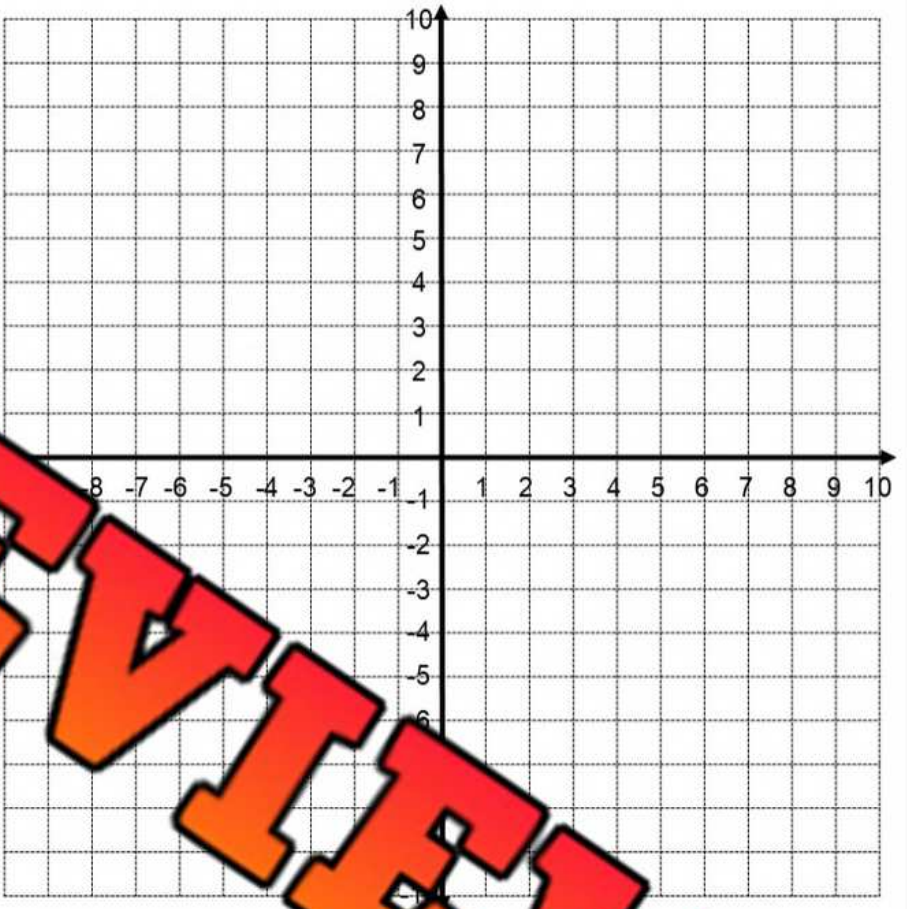
Rotations – Coordinates

Part 1 Draw the shapes using the coordinates provided. Then rotate the shape about the origin

Shape A
P(9,2), Q(6,4), R(3,2)
90° counterclockwise rotation
New Coordinates
P(,), R(,)

Shape B
F(-7,), G(-9
180° ro
New Coordi
F(,), G(,), H(

Shape C
J(-2,-9), K(-8,-6), L(-2,-2)
90° counterclockwise rotation
New Coordinates
J(,), K(,), L(,)



PREVIEW

Part 2 Give the coordinates of each point after the rota

	Original Coordinate	Rotation Instructions	New Coordinates
1)	P(5, 4)	90° counterclockwise rotation	P(-4, 5)
2)	S(2, 6)	180° rotation	
3)	Q(-3, 7)	360° rotation	
4)	P(-5, -8)	90° counterclockwise rotation	
5)	T(-6, 3) Y(-2, -5)	90° clockwise rotation	
6)	S(-8, -4) R(5, 7)	180° rotation	
7)	N(-5, 5) K(6, -7)	90° clockwise rotation	
8)	P(6, -3) E(-6, 5)	180° rotation	

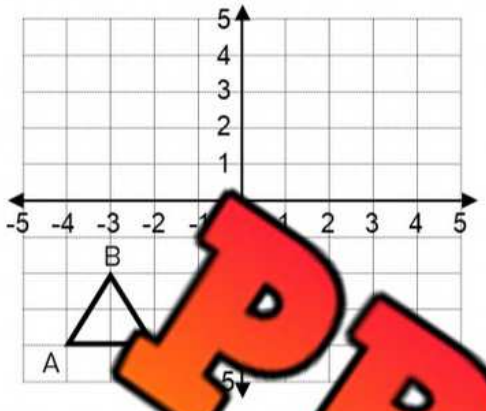
© Super Simple Sheets

Name: _____ 94

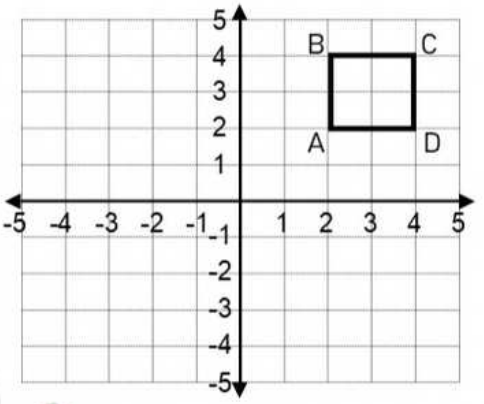
Curriculum Connection
E1.4

Performing Multiple Transformations

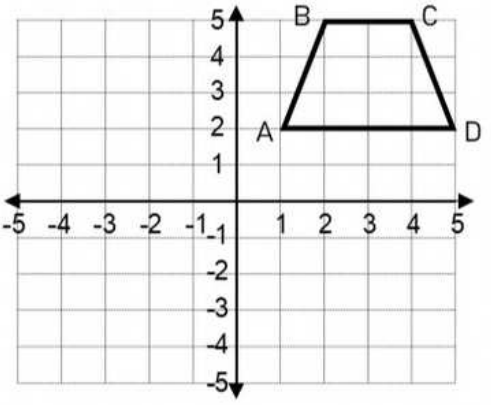
Instructions Complete the following combination of transformations



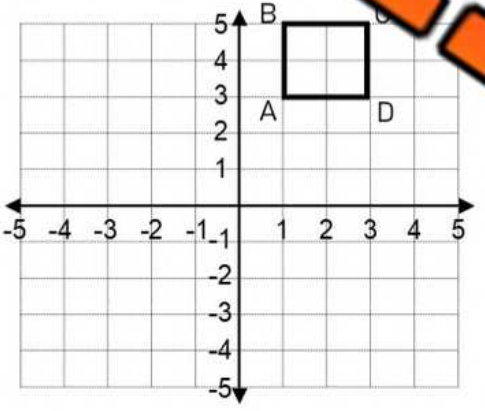
1) 180° rotation, ... down 3



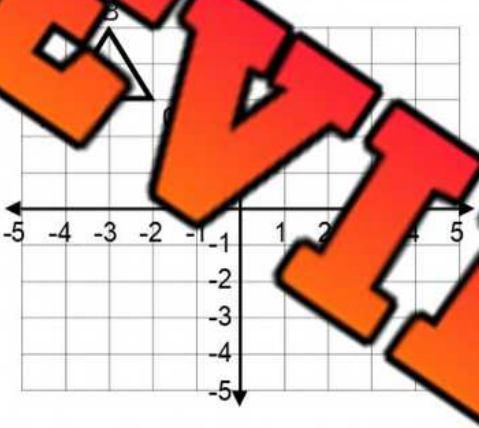
2) ...ct across the x-axis ...te left 4



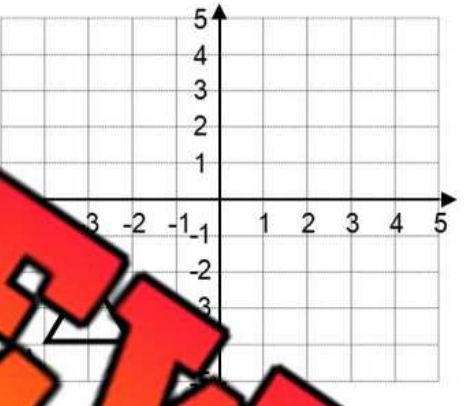
3) Rotate 90° clockwise and reflect across the y-axis



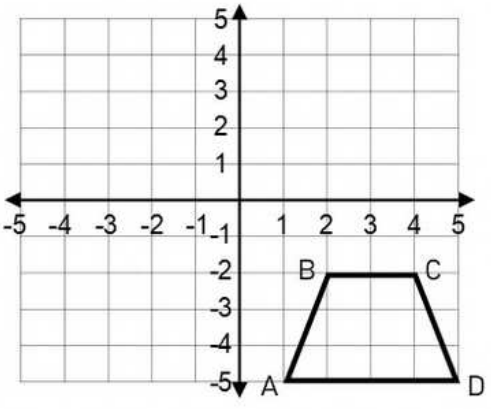
4) 90° counterclockwise rotation, translate right 3



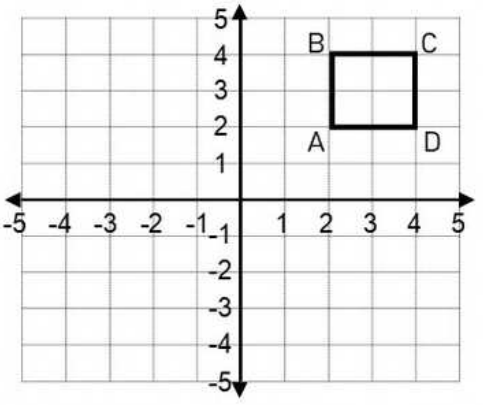
5) Translate down 3 and reflect across the y-axis



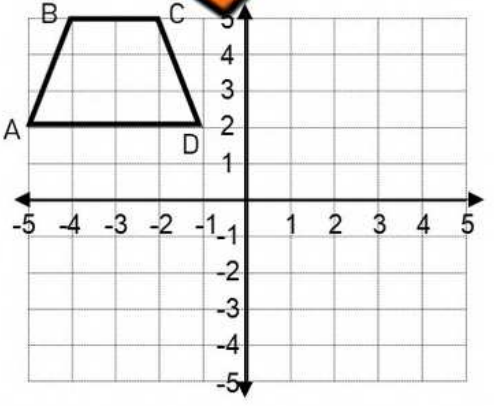
6) ...-axis ...up 4



7) 180° rotation, translate down 5



8) Reflect across the x-axis and translate left 6



9) Rotate 90° clockwise and reflect across the x-axis

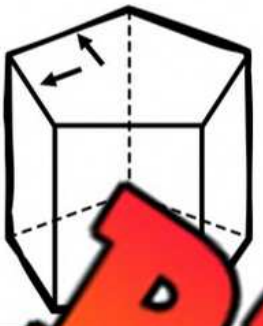
PREVIEW

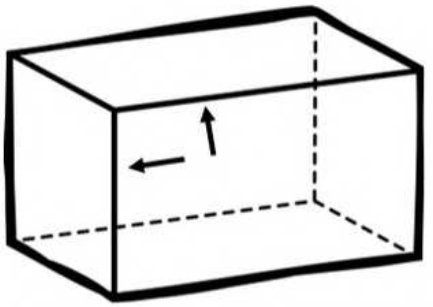
© Super Simple Sheets

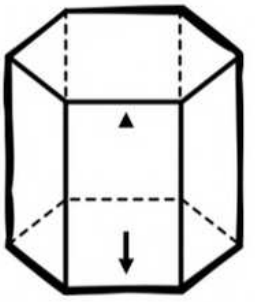
Name: _____ 100

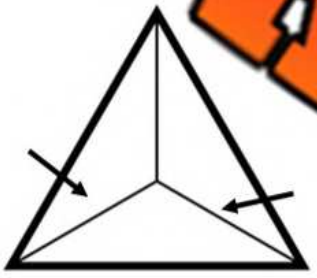
Geometry Test

Part 1 Are the lines parallel, intersecting, or perpendicular?

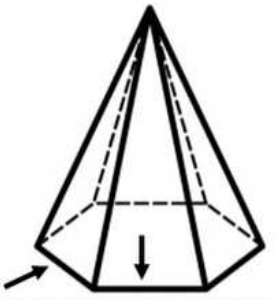






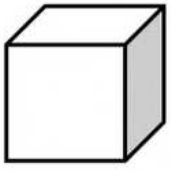
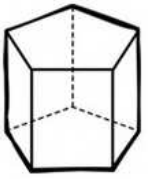
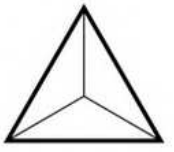


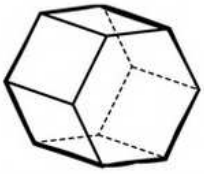
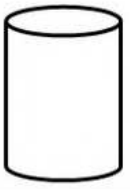
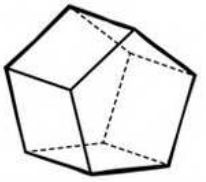
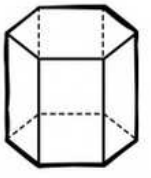




PREVIEW

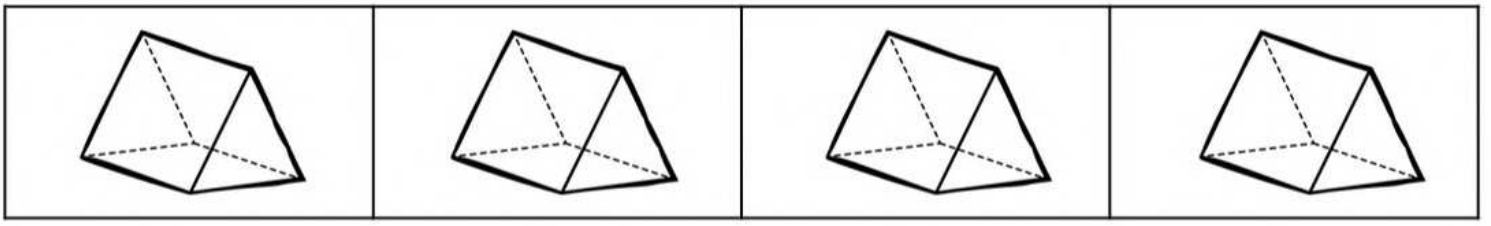
Part 2 Draw the axis and the order of rotational [illegible] for ea[illegible] object

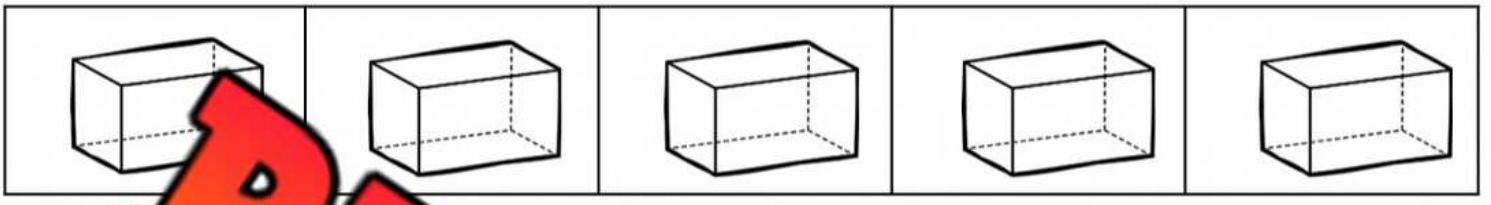
1)	2)	3)	
			

5)	6)	7)	8)
			

© Super Simple Sheets

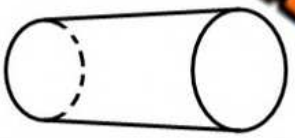
Part 3 Draw the planes of symmetry for the 3D objects below



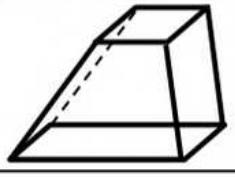


Part 4 Explain why the objects below are not cylinders, pyramids, or prisms

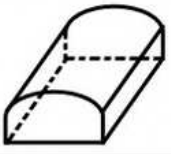
1) Why is the object below not a cylinder?



2) Why is the object below not a pyramid?

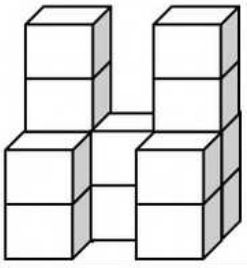


3) Why is the object below not a prism?



PREVIEW

Part 5 Draw the top, front, and side view of the objects below

Original Shape	Top View	Front View	Side View
			

© Super Simple Sheets

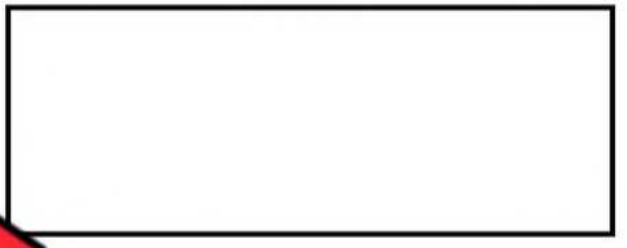
Part 6 Answer the questions below using the scale factors given

1) A bridge is 4500cm long. If 1cm equals 500cm, how many centimetres long would the bridge be using a scaled drawing?	2) The dimensions of a house are 48m by 24m. If one centimetre equals 6m, what are the scaled dimensions of the house?

Part 7 Answer the questions below

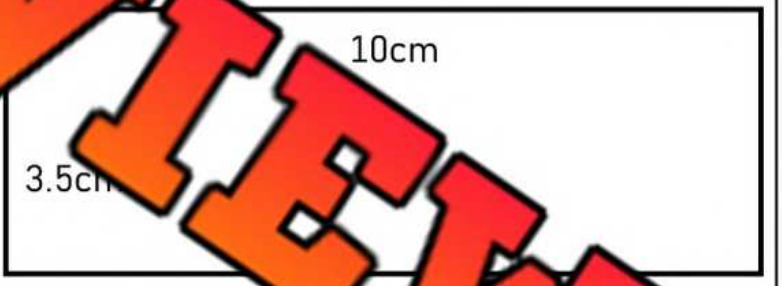
1) A [illegible] 21m wide. A scaled [illegible] to represent the park.

What scale was [illegible] the [illegible]



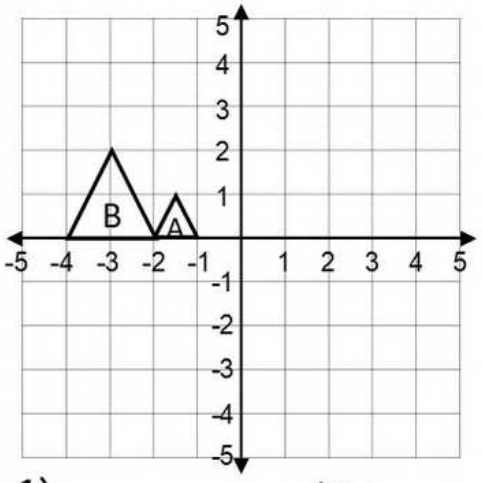
2) A TV has the following dimensions: 100cm by 35cm. A scaled drawing was created to represent the TV.

What scale was used in the drawing?

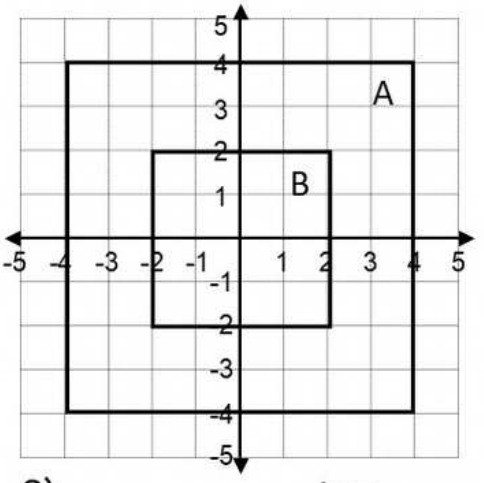


PREVIEW

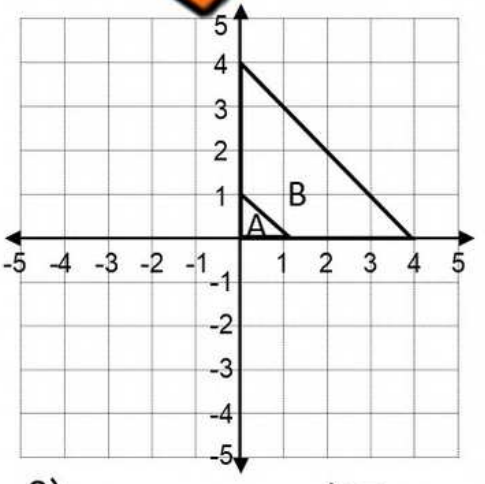
Part 8 Is the dilation an enlargement or reduction? Then find the scale factor



1) _____ k = ____



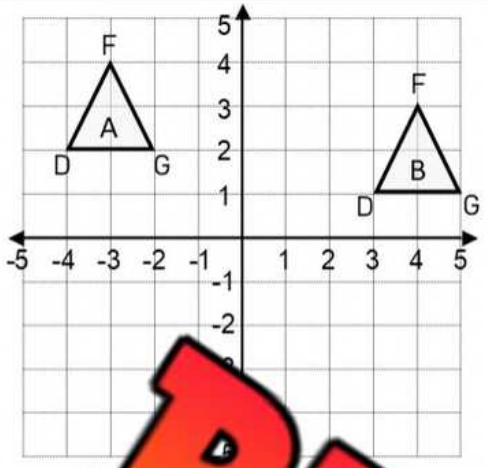
2) _____ k = ____



3) _____ k = ____

© Super Simple Sheets

Part 9 — 1) Fill in the coordinates 2) Describe the translation 3) Translate shape C



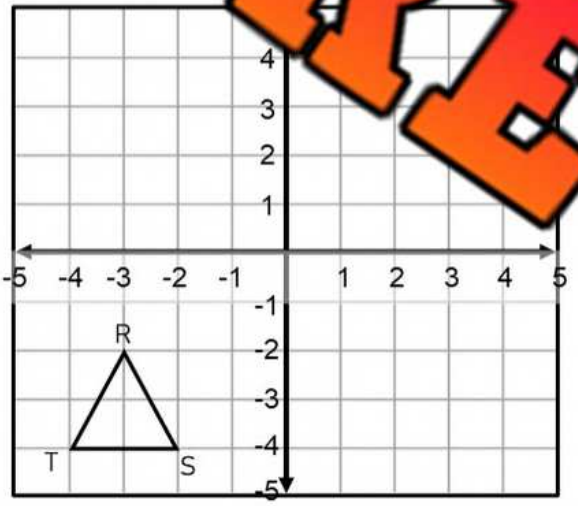
Coordinates A	Coordinates B

Describe the translation

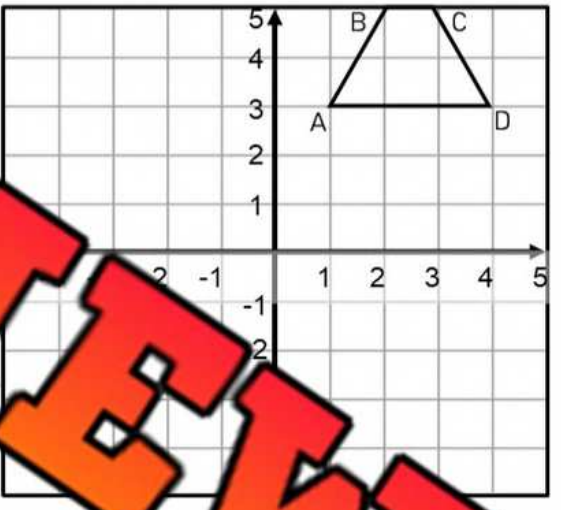
Translate Shape C from Shape B Left 3 units and down 4 units	Coordinates C

Part 1 — Graph the new position of each shape after the given reflection

1) Reflection across the line y =



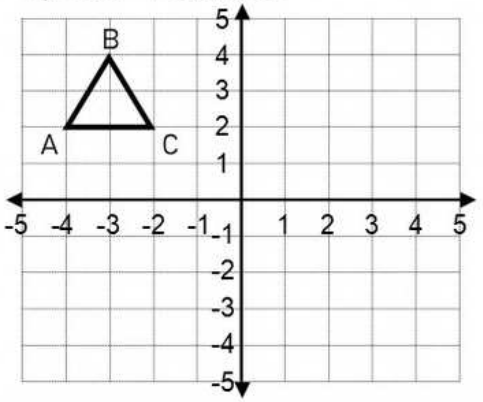
2) Reflection across the line x = 1



PREVIEW

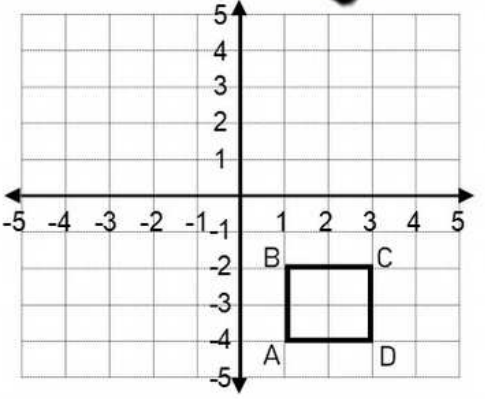
Part 11 — Graph the new position of each shape after the g

1) 180° rotation



Original	A(,)	B(,)	C(,)
Rotated	A(,)	B(,)	C(,)

2) 90° counterclockwise rotation



Original	A(,)	B(,)	C(,)	D(,)
Rotated	A(,)	B(,)	C(,)	D(,)

© Super Simple Sheets

Grade 7
E2 – Measurement

	Curriculum Expectations	Pages That Cover the Expectations
E2.1	describe the differences and similarities between volume and capacity, and apply the relationship between millilitres (mL) and cubic centimetres (cm³) to solve problems	105 - 134
E2.2	solve problems involving perimeter, area, and volume, including converting from one metric unit of measure to another	135 - 167
E2.3	use the relationship between radius, diameter, and circumference of a circle to develop the formula for finding the circumference, and to solve related problems	168 - 182
E2.4	construct circles when given the radius, diameter, or circumference	183 - 185
E2.5	show the relationships between the radius, diameter, and area of a circle, and use these relationships to explain the formula for measuring the area of a circle and to solve related problems	186 - 203
E2.6	represent cylinders as nets and determine their surface area by adding the areas of their parts	204 - 216
E2.7	show that the volume of a prism or cylinder can be determined by multiplying the area of its base by its height, and apply this relationship to find the area of the base, volume, and height of prisms and cylinders when given two of the three measurements	217 - 233

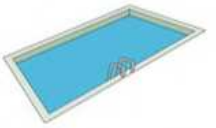
PREVIEW

© Super Simple Sheets

Name: _____ 106

Curriculum Connection
E2.1

Metric System Units – Capacity – Decimal Conversions

Millilitre (mL)	Litre (L)	Kilolitre (kL)
1000 mL = 1L	1000L = 1kL	1kL = 1000L
		

PREVIEW

Part 1 — L in the tables below

mL	L
1000	
2000	
3000	
	4
	5
6000	
7000	
8000	
	9
	10

	L
500	
	3.5
4500	
5500	
6500	
	7.5
8500	
	9.5
10500	

L	kL
1000	1
	2
	3
0	
	5
8000	
10000	

L	kL
1100	
1200	
	1.3
	1.4
1500	
	1.6
	1.7
00	
	1.9

Part 2 — Convert the units of measurement below

1) 1.7L	_____ mL	5) 6.4kL	_____ L	9) 4.5L	_____ mL
2) 5.4L	_____ mL	6) 4700mL	_____ L	10) 5500mL	_____ L
3) 8400mL	_____ L	7) 8400mL	_____ L	11) 4.5kL	_____ L
4) 3200L	_____ kL	8) 7.7kL	_____ L	12) 2500L	_____ kL

© Super Simple Sheets

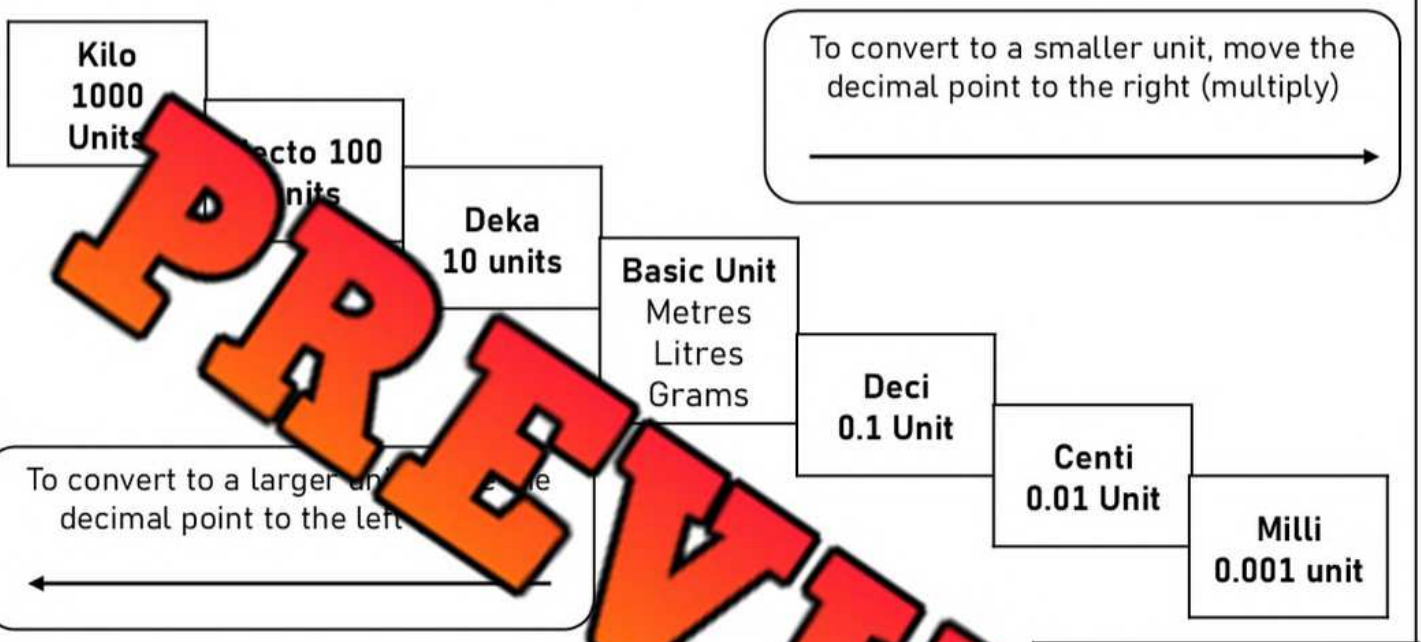
Name: _____ 107

Curriculum Connection
E2.1

Converting Units - Ladder Method

We can use the ladder method to convert any metric unit of measurement to another simply by following the rules below.

Ladder Method



PREVIEW

Instructions

1. Find your starting unit of measurement
2. Count the jumps to get to your ending unit of
3. Move the decimal the number of jumps up or dow
   Moving Up = Left and Moving Down = Right

EXAMPLE

_____ mL
(s down –
m ecimal 3 right)
_____ L

Practice

Convert the units of measurement below

1) 3.2L	_____ mL	5) 7.4kL	_____ L	9) 603.8L	_____ kL
2) 453mL	_____ cL	6) 954L	_____ kL	10) 251.1mL	_____ L
3) 112cL	_____ mL	7) 231.7L	_____ kL	11) 15.85L	_____ mL
4) 605.3L	_____ kL	8) 605.4mL	_____ L	12) 4313.2mL	_____ kL

© Super Simple Sheets

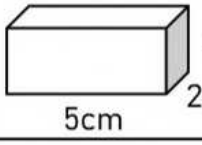
Name: _____ 115

Curriculum Connection
E2.1

Calculating Volume - Blocks

Rectangular Prism - Calculating Volume

To find the volume of a rectangular prism, multiply the length by the width by the height.



v = l x w x h
v = 5cm x 2cm x 4cm
v = 40cm³

Instructions Label the rectangular prisms and then calculate the volume

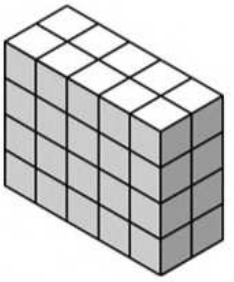
PREVIEW

1)



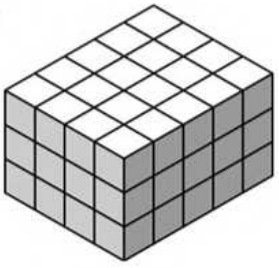
l = _____
w = _____
h = _____
v = _____

2)



l = _____
w = _____
h = _____
v = _____

3)



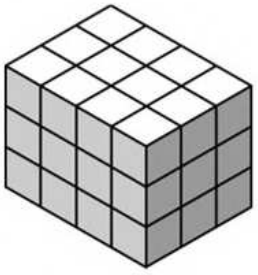
l = _____
w = _____
h = _____
v = _____

4)



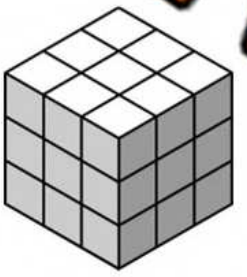
l = _____
w = _____
h = _____
v = _____

5)



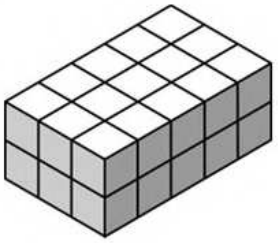
l = _____
w = _____
h = _____
v = _____

6)



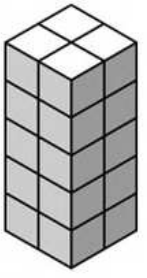
l = _____
w = _____
h = _____
v = _____

7)



l = _____
w = _____
h = _____
v = _____

8)



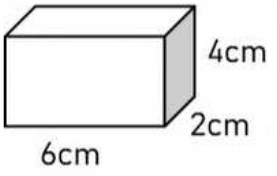
l = _____
w = _____
h = _____
v = _____

© Super Simple Sheets

Name: _____ 117

Curriculum Connection
E2.1

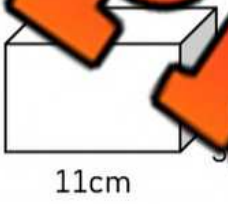
Calculating Volume of Rectangular Prisms

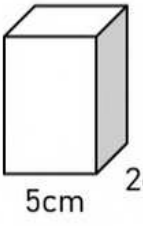
Rectangular Prism - Calculating Volume		
To find the volume of a rectangular prism, multiply the length by the width by the height.		v = l x w x h v = 6cm x 2cm x 4cm v = 48cm³

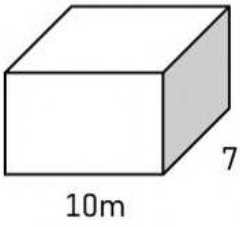
Instructio

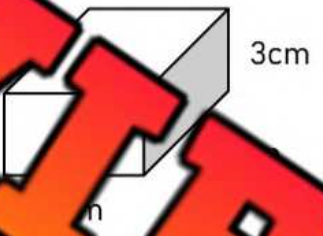
Calculate the volume of the rectangular prisms

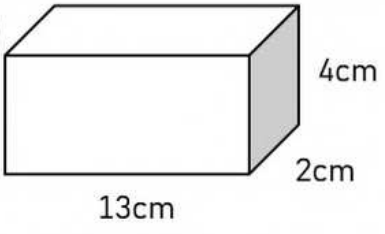
PREVIEW

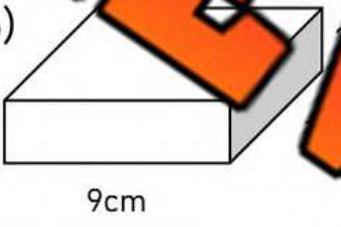
1) 

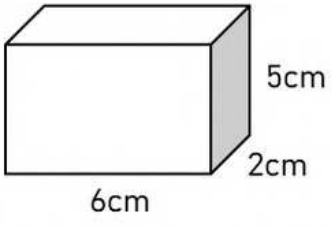
2) 

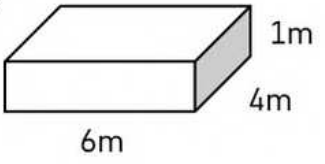
3) 

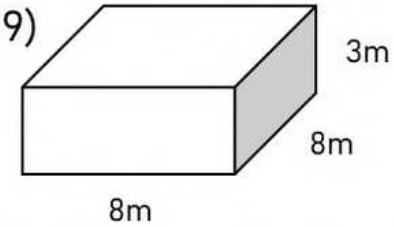


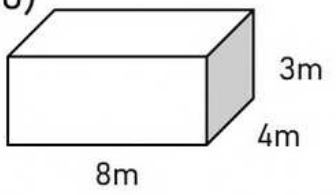
5) 

6) 

7) 

8) 

9) 

10) 

© Super Simple Sheets

Name: _____ 118

Curriculum Connection
E2.1

Calculating Volume of Rectangular Prisms

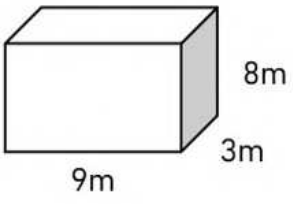
Part 1 A variety of small boxes are used for packaging. Find the volume of each box

Box Type	Length	Width	Height	Volume
Box 1	9cm	6cm	2cm	
Box 2	7cm	5cm	10cm	
Box	5cm	8cm	3cm	
Bo	6	9cm	3cm	
Box 5	m	8cm	6cm	
Box 6	c		8cm	
Box 7	7cm		4cm	

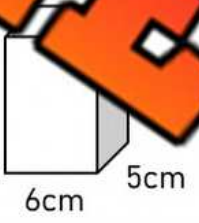
PREVIEW

Part 2 Calculate the volume of th rectang pris

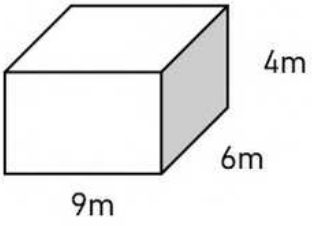
1)



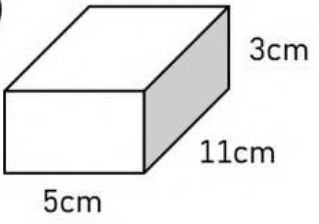
2)



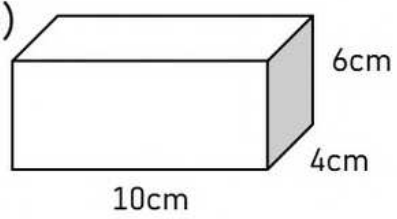
3)



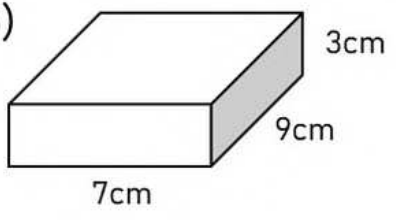
4)



5)



6)



© Super Simple Sheets

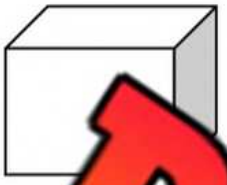
Name: _____ 119

Curriculum Connection
E2.1

Calculating Volume of Rectangular Prisms

Instructions Label the rectangular prisms and then calculate the volume

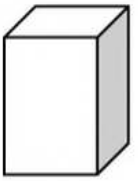
1)



l = 6m
w = 300cm
h = 400cm

v = _____

2)



l = 550cm
w = 2.5m
h = 9m

v = _____

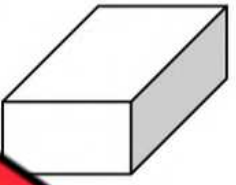
3)



l = 82
w =
h =

v = _____

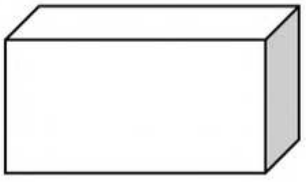
4)



l = 90cm
w = 0.3m
h = 15cm

v = _____

5)



l = 1.1m
w = 35cm
h = 0.8m

v = _____

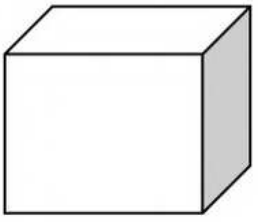
6)



l = 6.2m
w = 815cm
= 140cm

v = _____

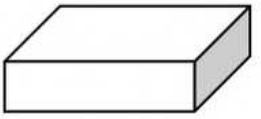
7)



l = 7.65m
w = 325cm
h = 5.31m

v = _____

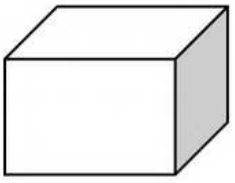
8)



m
w = 373cm
h = 158cm

v = _____

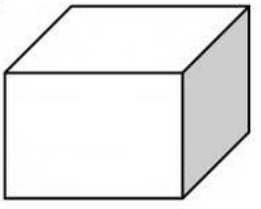
9)



l = 10.5m
w = 603cm
h = 4m

v = _____

10)



l = 9.4m
w = 807cm
h = 4.2m

v = _____

PREVIEW

© Super Simple Sheets

Curriculum Connection
E2.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) What is the volume of the rectangular prism?



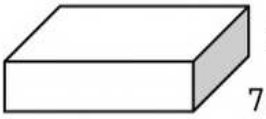
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



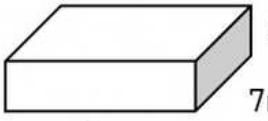
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



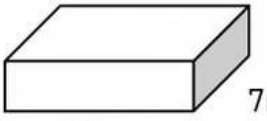
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

PREVIEW

© Super Simple Sheets

Name: _____ 122

Curriculum Connection
E2.1

Volume Jeopardy

Objective What are we learning about?

To reinforce students' understanding of calculating the volume of rectangular prisms by solving problems in a fun and competitive game format.

Mate ...u will need for the activity.



- Jeopardy ...d ...ne ne... ...e
- Buzzer or bell

Instructions How you will comp... ...activ...

1. Print the Jeopardy board on the next p...
2. Divide the class into two teams.
3. Ask one team to go first by selecting a point value.
4. Read the question aloud from the point value.
5. The first team to ring the bell or buzzer gets to answer.
6. If they answer correctly, award them the points. If not, another team can answer.
7. Continue the game until all questions have been answered.
8. Tally the points to determine the winning team.
9. Conclude by discussing what they learned about the topic in the questions.

PREVIEW

Name: _____ 123

Curriculum Connection
E2.1

Jeopardy Questions | Ask students the questions below

$100	$200	$300	$400	$500
L=2m, W=5m, H=4m, V=?	The base is 12 cm² and the height is 6 cm. What is the volume?	The volume is 240 cm³ and the height is 6 cm. What is the base area?	L=2, W= H=3, V=48. Find W	The volume is 400 cm³ and the height is 8 cm. What is the base area?
L=3c[illegible] W[illegible] H=2cm[illegible]?	[illegible]e volume is [illegible] and the [illegible]cm². [illegible]	The base is 20 cm² and the height is 5 cm. What is the volume?	The volume is 300 cm³ and the height is 10 cm. What is the base area?	The volume is 500 cm³ and the height is 10 cm. What is the base area?
L=4cm, W=5cm, H=3cm, V=?	The[illegible]e is [illegible] cm² a[illegible] height is 6[illegible] What is the volume?	L=4[illegible] =10[illegible]	The base is 30 cm² and the height is 4 cm. What is the [illegible]lume?	The volume is 180 cm³ and the base is 15 cm². What is the height?
L=2m, W=8m, H=3m, V=?	The volume is 400 cm³ and the height is 10 cm. What is the base area?	L=15cm, W=20cm, H=10cm, V=?	The [illegible] 500[illegible] [illegible]s [illegible]0 cm² W[illegible]he height?	The volume is [illegible]40 cm³ and the [illegible]ght is 15 cm. W[illegible]e base [illegible]
L=5m, W=5m, H=3m, V=?	The volume is 240 cm³ and the base is 20 cm². What is the height?	The volume is 360 cm³ and the base is 12 cm². What is the height?	The volume is 600 cm³ and the base is 50 cm². What is the height?	[illegible] volume is 720 cm³ and the base is 24 cm². What is the height?
L=7cm, W=5cm, H=3cm, V=?	The volume is 300 cm³ and the height is 10 cm. What is the base area?	L=70m, W=40m, H=20m, V=?	The volume is 450 cm³ and the height is 9 cm. What is the base area?	The volume is 600 cm³ and the height is 15 cm. What is the base area?

PREVIEW

© Super Simple Sheets

Name: _____ 125

Curriculum Connection
E2.1

Metric System Units – Decimal Conversions

In Canada, we use the metric system. The metric system has 4 main units that we use to measure distances.



Examples



Millimetre (mm)	Centimetre (cm)	Metre (m)	Kilometre (km)
15mm = 1.5cm 1500mm = 1.5m	150cm = 1.5m 1cm = 10mm	1.5m = 150cm 1500m = 1.5km	2.3km = 2300m

Part 1 Complete the tables below

mm	
5	
15	
	2.5
	3.5
45	
55	
	6.5
75	
85	
	9.5

cm	m
	0.5
	1.5
250	
350	
550	
650	
	7.5
850	
950	

m	km
1500	
	3.5
5500	
7500	
	9.5
00	
13	
	15.5
	19.5

PREVIEW

Part 2 Convert the units of measurement below

1) 1.1m	_____cm
2) 42mm	_____cm
3) 3.7cm	_____mm
4) 9.3cm	_____mm

5) 8.12m	_____cm
6) 515mm	_____cm
7) 426mm	_____cm
8) 7.5cm	_____mm

9) 831cm	_____m
10) 75mm	_____cm
11) 6.89m	_____cm
12) 562cm	_____m

© Super Simple Sheets

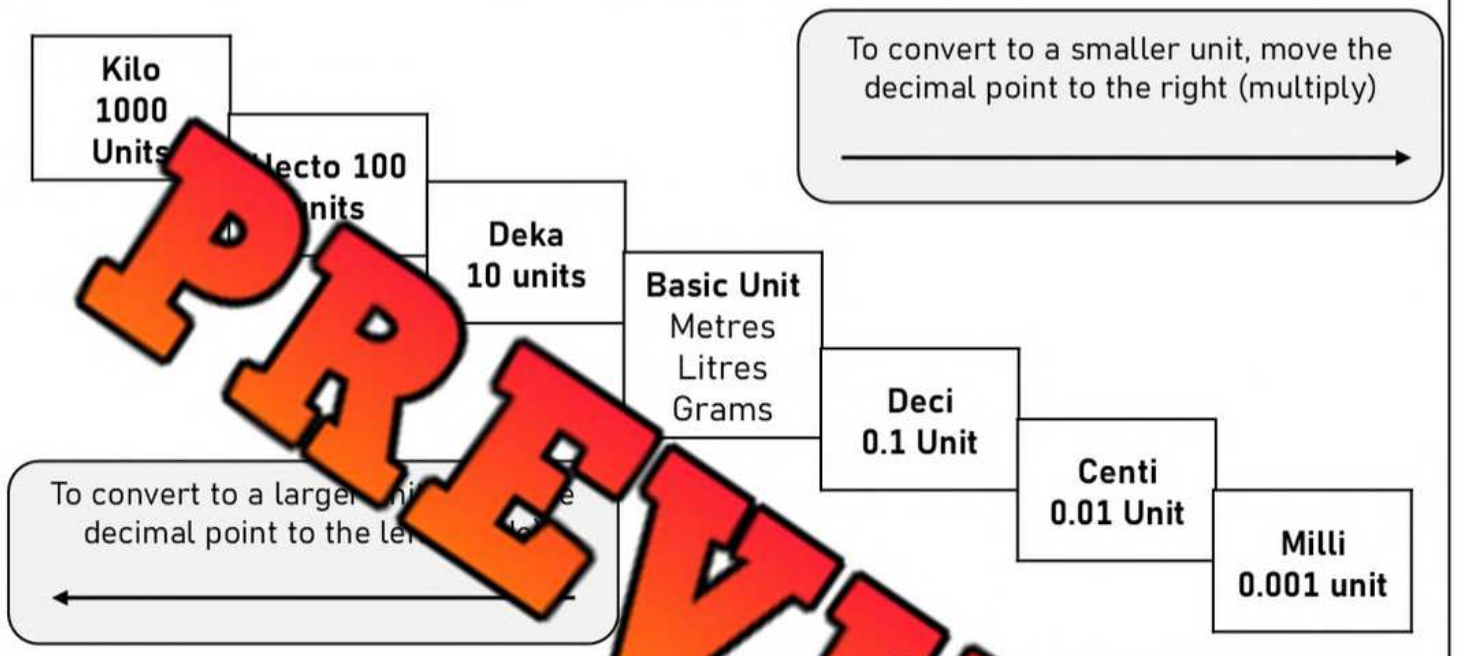
Name: _____ 126

Curriculum Connection
E2.1

Converting Units - Ladder Method

We can use the ladder method to convert any metric unit of measurement to another simply by following the rules below.

Ladder Method



PREVIEW

Instructions

1. Find your starting unit of measurement
2. Count the jumps to get to your ending unit of
3. Move the decimal the number of jumps up or down
   Moving Up = Left and Moving Down = Right

EXAMPLE

= ____ mm
(s down –
ecimal 3 right)
m

Practice Convert the units of measurement below

1) 2.8m	_____mm	5) 7.4km	_____m	9) 11 518m	_____km
2) 418mm	_____cm	6) 807m	_____km	10) 7921mm	_____m
3) 278cm	_____mm	7) 3045m	_____cm	11) 9.52m	_____mm
4) 277.5m	_____km	8) 5232cm	_____mm	12) 12cm	_____mm

© Super Simple Sheets

Curriculum Connection
E2.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Convert the units of measurement below.

a) _____m

_____mm

c) _____m

2) Solve the problem below

Noah and Olivia both walk to school. Noah walks 16.32km and Olivia walks 1653m. Who walks further to school?

_____

Name: _____

1) Convert the units of measurement below.

a) 1.333km = _____m

b) 415m = _____mm

c) 7775cm = _____m

2) Solve the problem below

Noah and Olivia both walk to school. Noah walks 16.32km and Olivia walks 1653m. Who walks further to school?

_____

PREVIEW

Name: _____

1) Convert the units of measurement below.

a) 1.333km = _____m

b) 415m = _____mm

c) 7775cm = _____m

2) Solve the problem below

Noah and Olivia both walk to school. Noah walks 16.32km and Olivia walks 1653m. Who walks further to school?

_____

Name: _____

1) Convert the units of measurement below.

a) 1.333km = _____m

b) 415m = _____mm

c) 7775cm = _____m

2) Solve the problem below

Noah and Olivia both walk to school. Noah walks 16.32km and Olivia walks 1653m. Who walks further to school?

_____

© Super Simple Sheets

Name: _____ 129

Curriculum Connection
E2.1

Memory Game: Matching Equivalent Units

Objective What are we learning about?

Students will practice converting and matching equivalent units of measurement, such as centimeters to millimeters and meters to centimeters, to enhance their understanding of metric conversions.

Materials What you will need for the activity.

- Sets of Memory Game cards with units of measurement (printed)
- Tables or clear space for each group to lay out their cards



Instructions How you will complete the activity

1. Divide the class into groups of 3 or 4 students each.
2. Give each group a set of Memory Game cards.
3. Have each group lay all the cards face down in a grid on a table or floor.
4. Students take turns flipping over two cards at a time, trying to find a match with equivalent units of measurement.
5. If a student finds a match (e.g., 1 meter and 100 centimeters), they remove those cards from the grid and keep them.
6. If the cards do not match, they are turned back over, and the next student takes a turn.
7. The game continues until all the cards have been matched.
8. After the game, review the equivalent units of measurement with the class, ensuring students understand the conversions.

PREVIEW

Name: _____ 133

Curriculum Connection
E2.1

Cards | Memory Game Cards

489 centimeters	489 millimeters
803 meters	86.3 centimeters
32 kilometers	20[illegible] meters
0.059 meters	59 centimeters
77.73 centimeters	777.3 millimeters

PREVIEW

© Super Simple Sheets

Name: _____ 134

Curriculum Connection
E2.1

Estimating Distance

Part 1 Estimate the length of each description below by circling the distance

1) Length of a pencil
a) 30cm
b) 10mm
c) 1km
d) 10cm



2) Length of a soccer field
a) 100m
b) 500m
c) 2km
d) 500cm



3) Distance [illegible] Ottawa to Toronto
a) 10km
b) 450
c) [illegible]
d) 500



4) Length of a gym
a) 15m
b) 3m
c) 300cm
d) 200mm



5) Width of a c[illegible]e [illegible]onitor
a) 3km
b) 1m
c) 30cm
d) 20mm



6) Length of your shoe
a) 1km
b) 1m
c) 20cm
d) [illegible]m



7) Height of a desk
a) 20km
b) 2m
c) 90cm
d) 200mm



[illegible] NBA player (tall person)
a) [illegible]
b) [illegible]
c) [illegible]cm
d) [illegible]



9) Length of a bus
a) 1km
b) 13m
c) 300cm
d) 2000mm



10) Width [illegible] [illegible] [illegible] pencil
a) 2km
b) 2m
c) 10cm
d) 10mm



PREVIEW

Part 2 Estimate the length/distance of each description below

Description	Estimate
1) Length of your foot	
2) Height of the door	
3) Distance between your home and your school	
4) Height of a computer screen	
5) Width of a cell-phone	

Description	Estimate
6) Height of your teacher	
7) Width of your seat	
8) Distance from your school to the CN Tower	
9) Height of your school building	
10) Width of a paper	

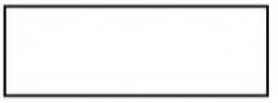
© Super Simple Sheets

Name: _____ 135

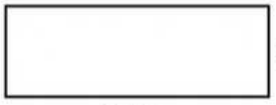
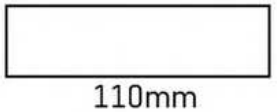
Curriculum Connection
E2.2

Perimeter Formulas

Mathematicians use formulas to help them solve questions faster and easier. When finding the perimeter of a quadrilateral, we can use the following formulas.

Formula 1		Formula 2
a + b + a + b 9 + 3 + 9 + 3 = 24cm		a + b x 2 9 + 3 x 2 = 24cm

Instruction e both formulas to calculate the perimeter of the quadrilaterals

Shape	Formula 1	Formula 2
1) 		
2) 		
3) 		
4) 		
5) 		
6) 		

PREVIEW

© Super Simple Sheets

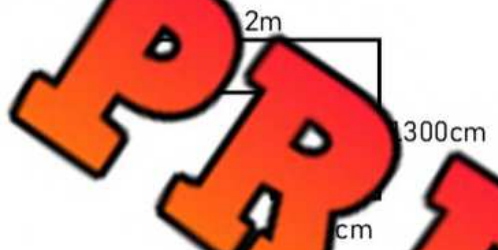
Curriculum Connection
E2.2

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Convert the units and calculate the perimeter of the shape.



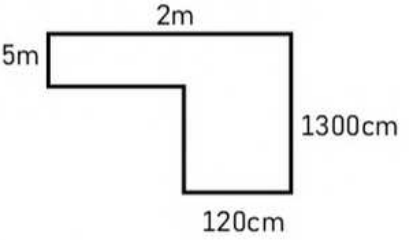
Perimeter = _____

2) A rectangular swimming pool is 34m by 1100cm. What is the perimeter of the swimming pool?

_____

Name: _____

1) Convert the units and calculate the perimeter of the shape.



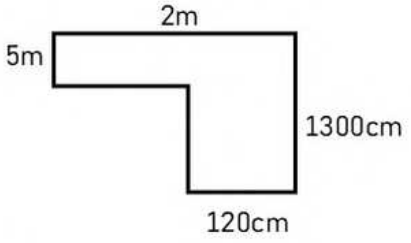
Perimeter = _____

2) A rectangular swimming pool is 34m by 1100cm. What is the perimeter of the swimming pool?

_____

Name: _____

1) Convert the units and calculate the perimeter of the shape.



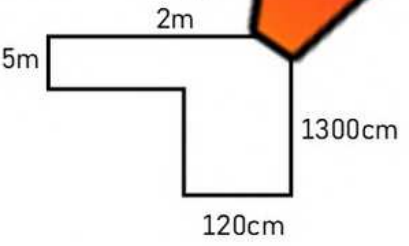
Perimeter = _____

2) A rectangular swimming pool is 34m by 1100cm. What is the perimeter of the swimming pool?

_____

Name: _____

1) Convert the units and calculate the perimeter of the shape.



Perimeter = _____

2) A rectangular swimming pool is 34m by 1100cm. What is the perimeter of the swimming pool?

_____

PREVIEW

© Super Simple Sheets

Name: _____ 140

Curriculum Connection
E2.2

Activity: Perimeter Race

Objective What are we learning about?

Students will practice calculating the perimeters of irregular and regular polygons by racing to answer questions quickly and accurately.

Materia[illegible] [illegible]t you will need for the activity.

- Index cards
- Markers o[illegible]s
- Timer (optiona[illegible]



Instructions How you w[illegible]ple[illegible]ty

1. Prepare a stack of index cards with perimete[illegible]estio[illegible]lude a mix of regular polygons (e.g., squares, rectangles) and i[illegible]ar pol[illegible], shapes with various side lengths).
2. Have students line up in a single file (or you can ke[illegible]nts [illegible]ir d[illegible]k).
3. Call the first two students in line to the front. Explain that th[illegible]nswer the perimeter question that the teacher pulls from the stack.
4. Pull a card from the stack and read the question aloud. The first student to answer correctly wins the round.
5. The student who answers correctly stays at the front to compete against the next student in line. The student who loses goes to the end of the line.
6. Optional: If a student wins five rounds in a row, they move to the back of the line to give others a chance to play.
7. Continue the game until all students have had a chance to compete multiple times or until the designated game time is up.

PREVIEW

Name: _____ 144

Curriculum Connection
E2.2

Index Cards | Cut out the Index cards below

A farmer fenced his field in the shape of an irregular pentagon. The side lengths were 18m, 22m, 27m, 33m, and 35m. What is the perimeter of the fie

A town square was designed in the shape of an irregular hexagon. The side lengths were 10m, 15m, 20m, 25m, 30m, and 35m. What is the perimeter of the town square?

Sarah jogge a pa ned like a regular he n. was 60m long. What i stanc Sarah jogged?

Rachel created a kite with a frame in the shape of a regular quadrilateral. Each side of the quadrilateral was long. What is the perimeter of frame?

A school playground was designed in the shape of an irregular quadrilateral. The side lengths were 20m, 25m, 30m, and 35m. What is the perimeter of the playground?

A gard s aid o he shape of an irreg ia lengths were 12m . What is the perime garden?

John built a birdhouse with a base in the shape of a regular pentagon. Each side was 5m long. What is the perimeter of the base?

A parking lot was built in the shape of a regular octagon. Each side of the octagon was 40m long. What is the perimeter of the parking lot?

PREVIEW

Name: _____ 145

Curriculum Connection
E2.2

Finding the Area of Rectangles

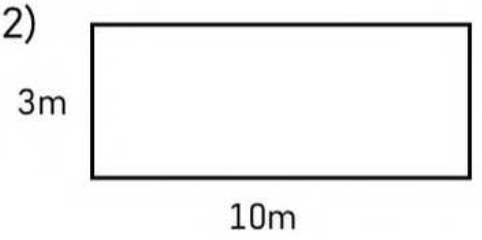
Instructions | Find the area (A= b x h) | *Not to Scale

1)



Area = _____

2)



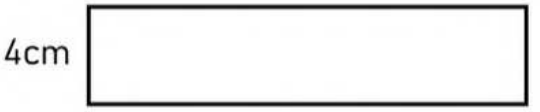
Area = _____

3)



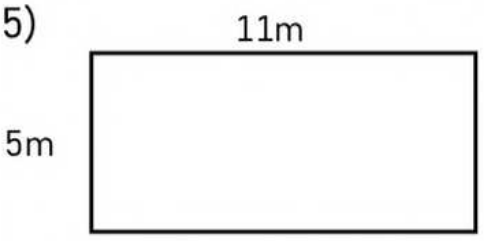
Area = _____

4)



Area = _____

5)



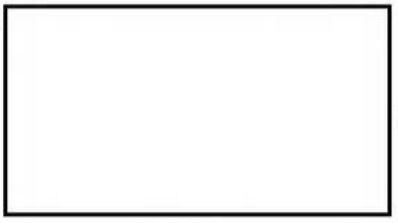
Area = _____

6)



Area = _____

7)



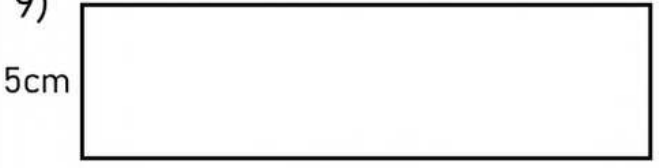
Area = _____

8)



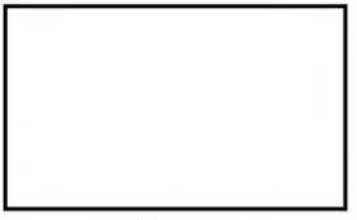
Area = _____

9)



Area = _____

10)



Area = _____

PREVIEW

© Super Simple Sheets

Name: _____ 152

Curriculum Connection
E2.2

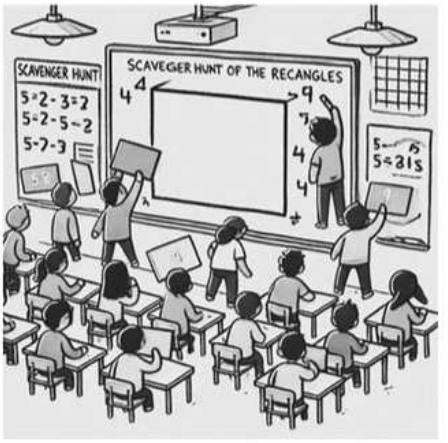
Scavenger Hunt: Area of Rectangles

Objective What are we learning about?

Students will practice calculating the area of rectangles, enhancing their understanding of this geometric concept through a fun and engaging scavenger hunt.

Materials What you will need for the activity.

- S[illegible] area questions (provided)
- Sm[illegible]ags or [illegible] for each team to collect their cards
- Tape to hide [illegible]round [illegible]room or in a designated safe [illegible]oor



PREVIEW

Instructions How you wi[illegible]ple[illegible]

1) **Prepare the Cards**: Write different [illegible]ea ques[illegible]abo[illegible]tangles on index cards. Use the questions generated above.
2) **Hide the Cards**: Hide the cards around the cla[illegible]s[illegible]a des[illegible]d safe outdoor area. Tape them under chairs, desks, or t[illegible]into[illegible]bvious spots.
3) **Divide into Teams**: Divide the class into small teams and give [illegible]t bag or envelope to collect their cards.
4) **Explain the Game**: Explain the game to the students. Each team wi[illegible]nt for a card, solve the problem on it as quickly as they can, and return to you for verification.
5) **Start the Game**: Say "Go!" and each team rushes to find their first card.
6) **Verify Answers**: When a team thinks they have the correct answer, they come back to you. If correct, they receive a checkmark and move on to find the next card.
7) **Continue Playing**: The game continues until all cards are found or you call time. The team with the most correct answers wins.
8) **Discuss**: After the game, discuss the problems and solutions each team encountered, focusing on the methods used to calculate the area and perimeter.

© Super Simple Sheets

Name: _____ 156

Curriculum Connection
E2.2

Index Cards | Cut out the cards below

A rectangular piece of wood has an area of 32 cm². If the height is 4 cm, what is the base in millimetres?

A rectangular field has a width of 10 m and a length of 2500 cm. What is the area of the field?

A rectang[illegible] perimeter of 50[illegible] m, what is the [illegible] millimetres?

A garden has an area of 35 m². The base of the garden is 700 cm. What is the height of the garden?

A garden plot measures 7.5 m by 4 m. If you divide the plot into 5 equal sections lengthwise, what is the area of each section?

A rec[illegible] ban[illegible] as an area of 2.5 m². [illegible] wi[illegible] nner is 50 cm, what [illegible] meters?

A square painting has an area of 1.44 m². What is the length of one side in centimeters?

A piece of rectangular cloth is 120 cm by 0.75 m. What is the area in square centimeters?

PREVIEW

© Super Simple Sheets

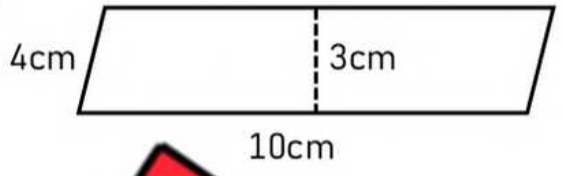
Name: _____ 157

Curriculum Connection
E2.2

Perimeter and Area of Parallelograms

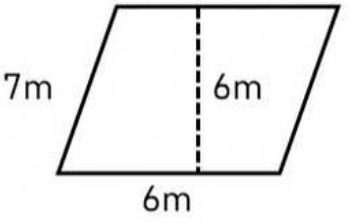
Instructions Find the perimeter and area of the parallelograms below (A= b x h)

1)



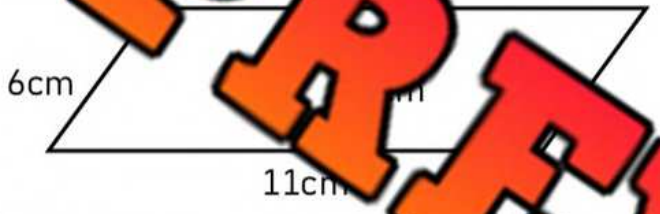
Perimeter = _____ Area = _____

2)



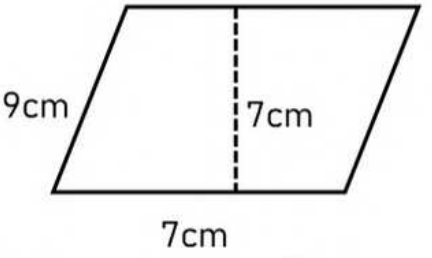
Perimeter = _____ Area = _____

3)



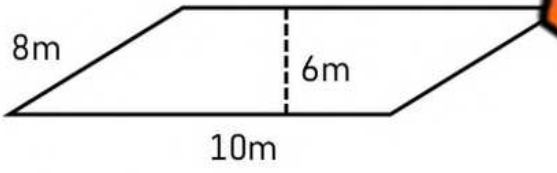
Perimeter = _____ Area = _____

4)



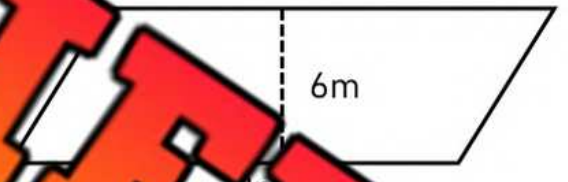
Perimeter = _____ Area = _____

5)



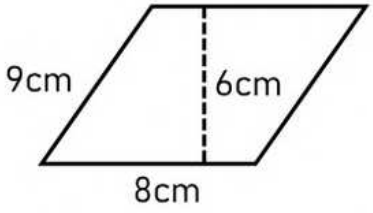
Perimeter = _____ Area = _____

6)



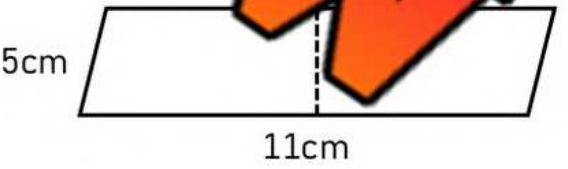
Perimeter = _____ Area = _____

7)



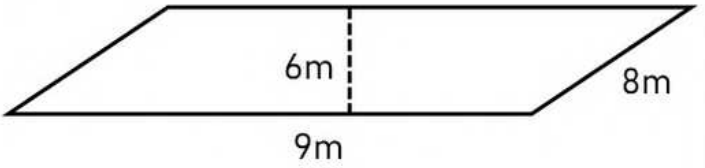
Perimeter = _____ Area = _____

8)



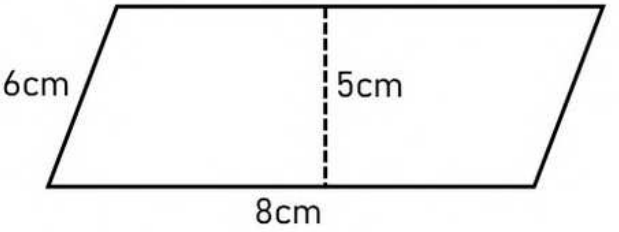
Perimeter = _____ Area = _____

9)



Perimeter = _____ Area = _____

10)



Perimeter = _____ Area = _____

PREVIEW

© Super Simple Sheets

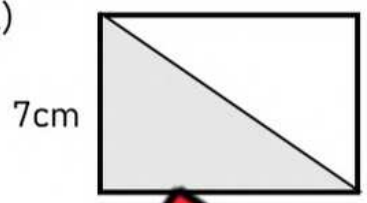
Name: _____ 159

Curriculum Connection
E2.2

Introduction – Area of a Triangle

Instructions Find the area of the rectangles and triangles below

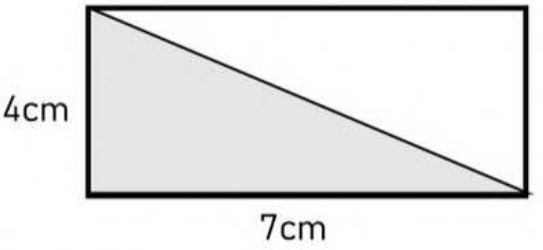
1)



Area of a rectangle = _____

Area of a triangle = _____

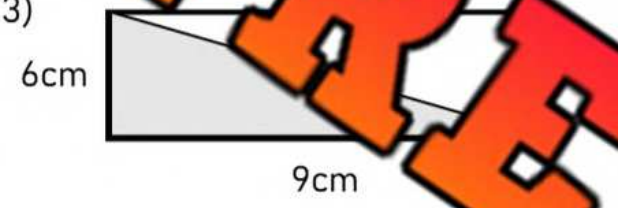
2)



Area of a rectangle = _____

Area of a triangle = _____

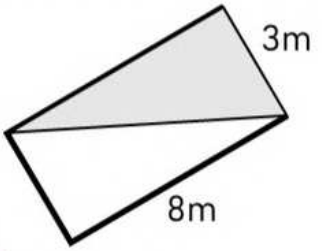
3)



Area of a rectangle = _____

Area of a triangle = _____

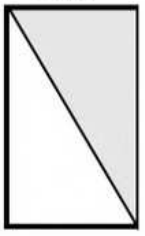
4)



Area of a rectangle = _____

Area of a triangle = _____

5)



Area of a rectangle = _____

Area of a triangle = _____

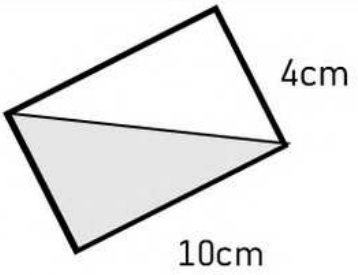
6)



Area of a square = _____

Area of a square = _____

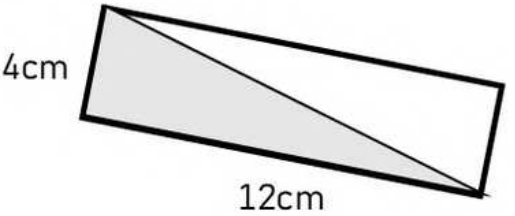
7)



Area of a rectangle = _____

Area of a triangle = _____

8)



Area of a rectangle = _____

Area of a triangle = _____

PREVIEW

© Super Simple Sheets

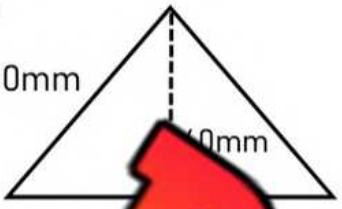
Name: _____ 162

Curriculum Connection
E2.2

Area of a Triangle

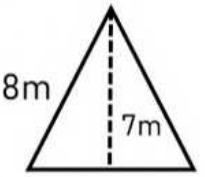
Part 1 — Find the area of the triangles below (A= b x h ÷ 2)

1)



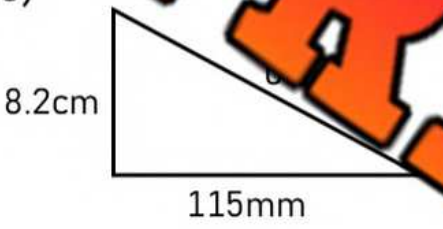
Area = _____

2)



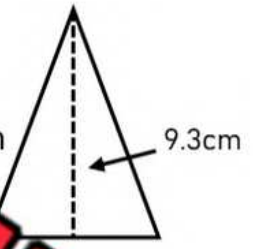
Area = _____

3)



Area = _____

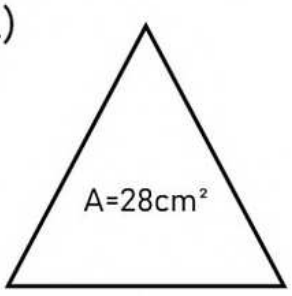
4)



Area = _____

Part 2 — Find the missing value

1)

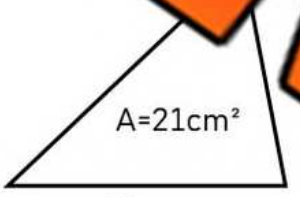


Base = _____

Height = _____

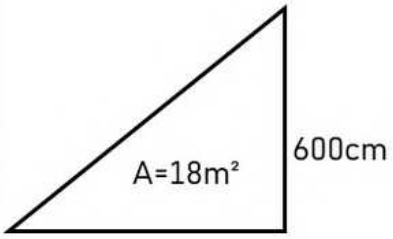
Area = _____

2)



Area = _____

3)

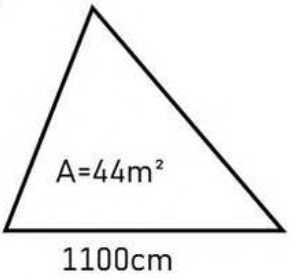


Base = _____

Height = _____

Area = _____

4)



Base = _____

Height = _____

Area = _____

PREVIEW

© Super Simple Sheets

Name: _____ 163

Curriculum Connection
E2.2

Area of a Triangle - Word Problems

Questions | Answer the questions below

1) Liam wants to build a triangular treehouse platform. The platform will have a base of 3 meters and a height of 2.5 meters. After calculating the area of the platform, he plans to cover it with wooden planks. If each wooden plank covers 0.5 square meters, how many wooden planks will he need to cover the entire floor?



2) A triangular stage for [illegible] play[illegible]se of 6 meters and a height of 4 meters. After finding the ar[illegible]e s[illegible]dents plan to cover it with a carpet. The carpet is sold by the squa[illegible], an[illegible]sts $25 per square meter. How much will the students need to [illegible]on the[illegible] cover the entire stage?



3) Ella plans to make a triangular banner for her school's sports event. The base of the banner is 3 meters, and the height is 2 meters. After calculating the area of the banner, Ella wants to paint it using two colours, with each colour covering half of the area. If a can of paint covers 1.5 square meters, how many cans of each color will she need?

PREVIEW

Curriculum Connection
E2.2

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Find the area of the triangles below (A= b x h ÷ 2).



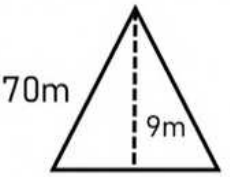
800cm Area = _____

2) A triangular banner has a base of 10 meters and a height of 600cm. What is the area of the banner?

_____

Name: _____

1) Find the area of the triangles below (A= b x h ÷ 2)



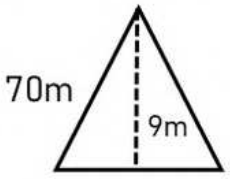
800cm Area = _____

2) A triangular banner has a base of meters and a height of 600cm. the area of the banner?

_____

Name: _____

1) Find the area of the triangles below (A= b x h ÷ 2)



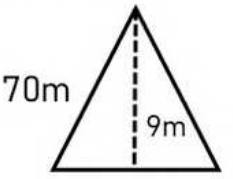
800cm Area = _____

2) A triangular banner has a base of 10 meters and a height of 600cm. What is the area of the banner?

_____

Name: _____

1) Find the area of below (A= b x h ÷



800cm Area = _____

2) A triangular banner has a base of 10 meters and a height of 600cm. What is the area of the banner?

_____

PREVIEW

© Super Simple Sheets

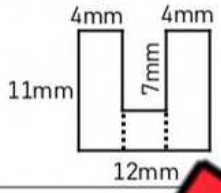
Name: _____ 165

Curriculum Connection
E2.2

Area of Composite Polygons

Find the area of the polygons below by splitting them into separate shapes.

Example



Area = area of rectangle 1 + area of rectangle 2 + area of rectangle 3

Rectangle 1:	Rectangle 2:	Rectangle 3:
A = 11 x 4	A = 4 x 4	A = 4 x 11
A = 44 mm²	A = 16mm²	A = 44mm²

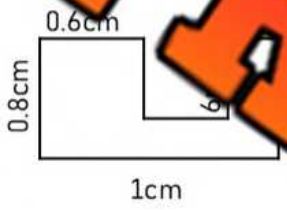
Area = 44 + 44 + 16
A = 104mm²

Instructio

Find the area of the composite polygons below

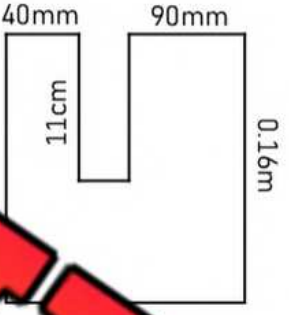
PREVIEW

1)



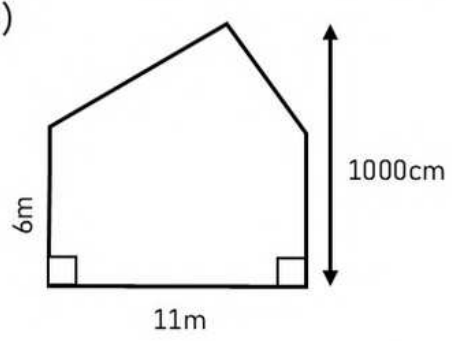
Area = _____

2)

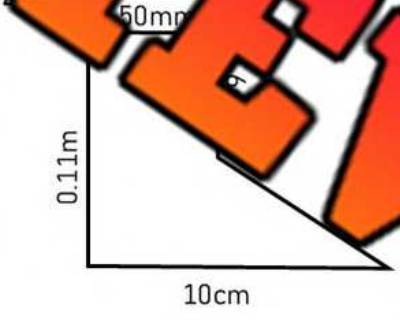


Area = _____

3)

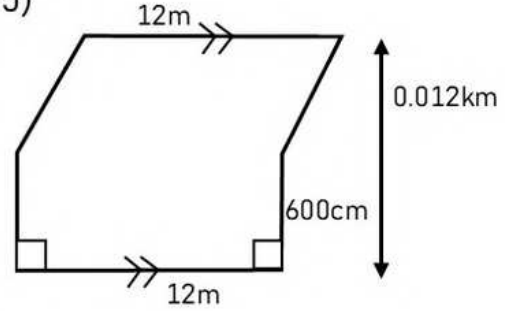


Area = _____



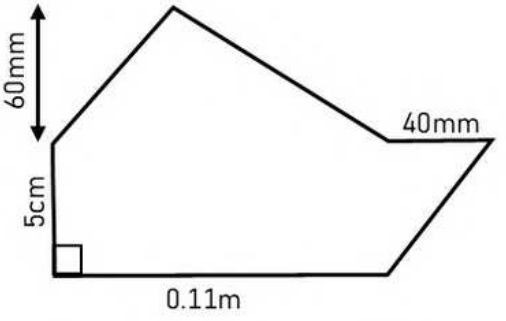
Area = _____

5)



Area = _____

6)



Area = _____

© Super Simple Sheets

Curriculum Connection
E2.2

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

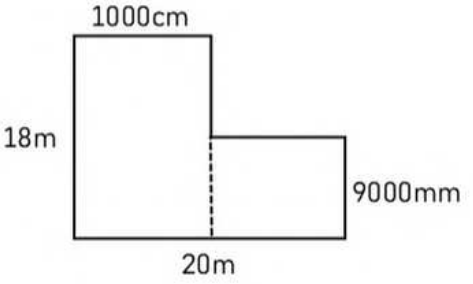
Find the area of composite shape



Area = _____

Name: _____

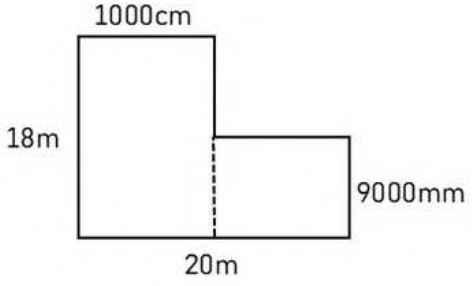
Find the area of composite shape



Area = _____

Name: _____

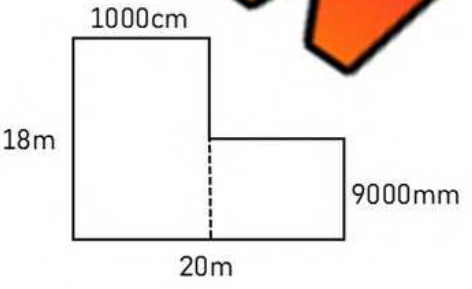
Find the area of composite shape



Area = _____

Name: _____

Find the area of composite shape



Area = _____

PREVIEW

© Super Simple Sheets

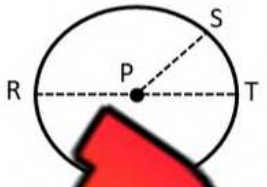
Name: _____ 168

Curriculum Connection
E2.3

Intro – Radius and Diameter

Instructions Identify the elements for each question. The first one is done for you

1)

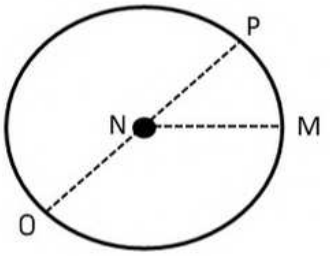


Centre = P

Radius = PS

Diameter = _____

2)

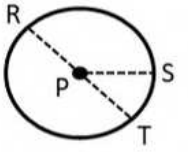


Centre = _____

Radius = _____

Diameter = _____

3)

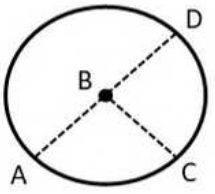


Centre = _____

Radius = _____

Diameter = _____

4)



Centre = _____

Radius = _____

Diameter = _____

5)

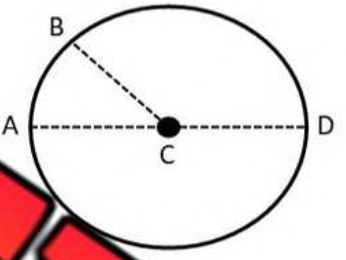


Centre = _____

Radius = _____

Diameter = _____

6)

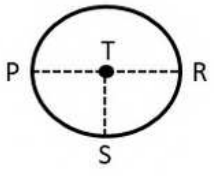


Centre = _____

Radius = _____

Diameter = _____

7)

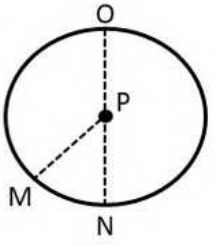


Centre = _____

Radius = _____

Diameter = _____

8)

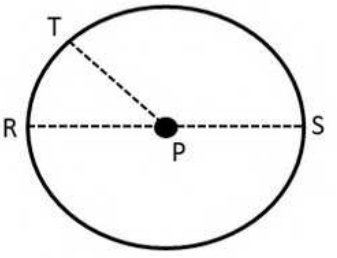


Centre = _____

Radius = _____

Diameter = _____

9)



Centre = _____

Radius = _____

Diameter = _____

PREVIEW

© Super Simple Sheets

Name: _____ 170

Curriculum Connection
E2.3

Calculating Radius and Diameter

Calculating Radius Formula

$r = \frac{d}{2}$ or $r = d \div 2$

Calculating Diameter Formula

$d = 2r$ or $d = r \times 2$

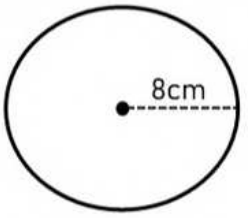
Instructions Find the radius and diameter of each circle below

1)

Radius = _____

Diameter = _____

2)



Radius = _____

Diameter = _____

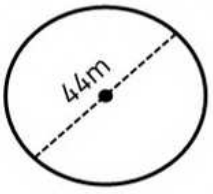
3)



Radius = _____

Diameter = _____

4)



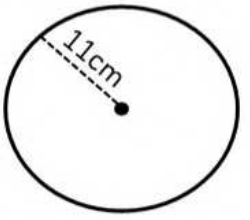
Radius = _____

Diameter = _____

Radius = _____

Diameter = _____

6)



Radius = _____

Diameter = _____

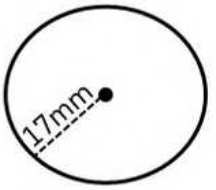
7)



Radius = _____

Diameter = _____

8)



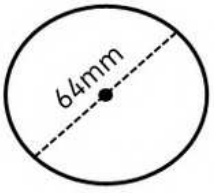
Radius = _____

Diameter = _____

Radius = _____

Diameter = _____

10)



Radius = _____

Diameter = _____

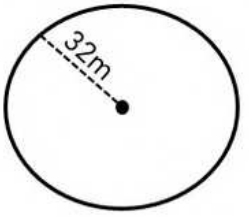
11)



Radius = _____

Diameter = _____

12)



Radius = _____

Diameter = _____

PREVIEW

© Super Simple Sheets

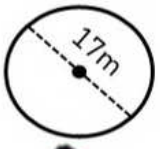
Name: _____ 171

Curriculum Connection
E2.3

Calculating Radius and Diameter

Part 1 — Find the radius and diameter of each circle below

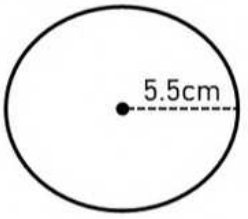
1)



Radius = _____

Diam_____

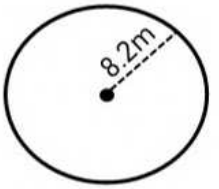
2)



Radius = _____

Diameter = _____

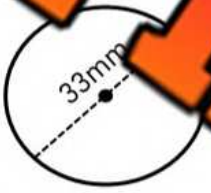
3)



Radius = _____

Diameter = _____

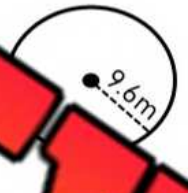
4)



Radius = _____

Diameter = _____

5)



_____ =

Radius = _____

6)



Radius = _____

Diameter = _____

PREVIEW

Part 2 — Fill in the blanks below

	Radius	Diameter
1)	7cm	
2)		28mm
3)		35m
4)	19cm	
5)		53mm

		Diameter
6)	5.5m	
7)	13.5m	
8)		77cm
9)		85mm
10)	62.2cm	

Part 3 — Answer the word problems below

1)	A pizza slice is 12cm long. What is the width of the entire pizza?	
2)	A circular pool is 13m long across the middle of the pool. How far is the middle of the pool from the side?	

© Super Simple Sheets

Name: _____ 172

Curriculum Connection
E2.3

Radius and Diameter – Word Problems

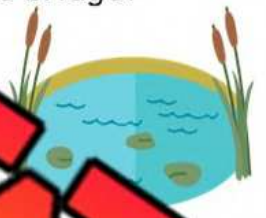
Questions | Answer the questions below

1) Emily found a round stone in her backyard and decided to make a necklace pendant out of it. She measured the diameter of the stone as 3 cm. She needs to drill a hole in the middle of the rock. How many cm from the outside of the rock is the middle?



2) A ch pizza h eter of 31 cm. The chef wants to know where the middle of the pizza is so they ca ver How many cm is the middle of the pizza from the outside?

3) A circular pond in a park has a radius ters. T k manager wants to install a decorative bridge straight across the po what sh e th ngth of the bridge?



4) A circular ice rink has a radius of 15 meters. The rink owner plans porary divider straight across the rink to create separate sections for beginners a anced skaters. How long should the divider be?

5) In a botanical garden, there is a circular flower bed with a diameter of 16 meters. The gardener plans to place a wooden plank halfway across the flower bed for maintenance purposes. How long should the plank be?

PREVIEW

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Find the radius and diameter of the circle.



Radius = _____

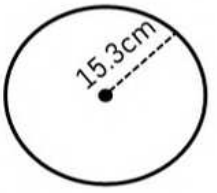
Diameter = _____

2) A garden fountain has a radius of 5 meters. How long is a pipe that goes straight across it?

_____

Name: _____

1) Find the radius and diameter of the circle.



Radius = _____

Diameter = _____

2) A garden fountain has a radius of 5 meters. How long is a pipe that goes straight across it?

_____

Name: _____

1) Find the radius and diameter of the circle.



Radius = _____

Diameter = _____

2) A garden fountain has a radius of 5 meters. How long is a pipe that goes straight across it?

_____

Name: _____

1) Find the radius and diameter of the circle.



Radius = _____

Diameter = _____

2) A garden fountain has a radius of 5 meters. How long is a pipe that goes straight across it?

_____

PREVIEW

© Super Simple Sheets

Name: _____ 174

Curriculum Connection
E2.3

Estimating Circumferences

The perimeter of a circle is called its circumference (*c*). The circumference is a little more than 3 times the length of the diameter. When we do not need a precise calculation of circumference, we can estimate by multiplying the diameter by 3. We may estimate the circumference of a pizza to know how large a box we need.

Part 1 Estimate the circumference of the circles below

PREVIEW

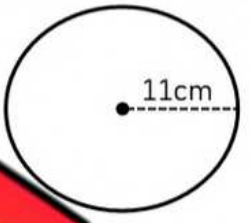
1)

Radius = _____

Diameter = _____

Circumference = _____

2)



Radius = _____

Diameter = _____

Circumference = _____

3)

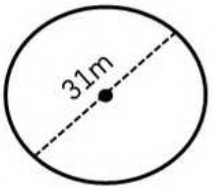


Radius = _____

Diameter = _____

Circumference = _____

4)



Radius = _____

Diameter = _____

Circumference = _____

5)



Radius = _____

Diameter = _____

Circumference = _____



Radius = _____

Diameter = _____

Circumference = _____

Part 2 Answer the word problems below

1)	Chase is drawing a circular logo. He needs the logo to be approximately 18cm in circumference. What will the radius of the logo be?	
2)	Leon is building a deck around his pool. He needs an estimate of the circumference of his pool, so he knows how much wood to buy. The radius of the pool is 3.3m. What is an estimate of the circumference?	

© Super Simple Sheets

Name: _____ 175

Curriculum Connection
E2.3

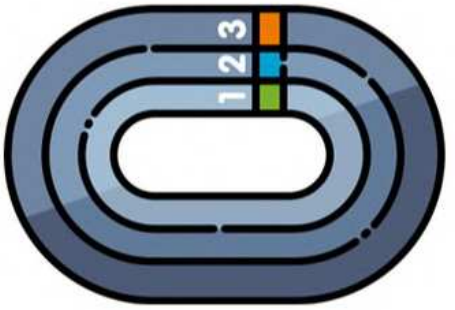
Math Race: Circumference, Radius, and Diameter

Objective What are we learning about?

Students will practice calculating the circumference, radius, and diameter of circles by quickly answering related questions in a competitive and engaging game format.

Materials What you will need for the activity.

- List[illegible]out circumference, radius, and
- Opt[illegible]l: Tim[illegible]atch
- Chairs arr[illegible]cle



Instructions How to [illegible] activity

1. Setup: Arrange chairs in a [illegible]le, [illegible]t seated in a chair. One student stands behind a seated student to [illegible]e gam
2. Explain the Game: Explain to the students th[illegible]ey w[illegible]rticipating in a race around the circle by answering questions [illegible] circ[illegible]radius, and diameter. The goal is to move around the en[illegible] ci[illegible] [illegible] their original position. Students should use mental math and [illegible]s (pi
3. Start the Game: The teacher reads out a question (e.g., "What [illegible]nce of a circle with a radius of 3 cm?"
4. Answering the Question: The standing student and the seated stud[illegible] front of them compete to answer the question first. The student who answers correctly first moves to stand behind the next seated student, while the other student remains seated.
5. Continue the Race: The teacher continues reading out questions, and the process repeats. The standing student continues to move around the circle, answering questions at each stop.
6. Winning the Game: The first student to make it around the entire circle and return to their original position wins the race.
7. Review: After the game, review some of the questions and answers with the class to reinforce the concepts and ensure understanding.

PREVIEW

© Super Simple Sheets

Name: _____ 177

Curriculum Connection
E2.3

Questions | Use the questions below for the game

Questions
A frisbee has a diameter of 30 cm. What is its circumference?
If a circle has a circumference of 96 cm, what is its radius?
The diameter of a circular rug is 50 cm. What is its circumference?
What is the circumference of a circle with a radius of 7 cm?
A circular garden has a radius of 100 m. What is its circumference?
The circumference of a circle is 42 cm. What is its radius?
A round pool has a diameter of 8 m. What is its circumference?
What is the radius of a circle with a circumference of 15 cm?
The diameter of a circular fountain is 12 m. What is its circumference?
If a circle has a circumference of 33 cm, what is its diameter?
A circular pizza has a radius of 20 cm. What is its circumference?
What is the diameter of a circle with a circumference of 25 cm?
The circumference of a circular field is 150 m. What is its diameter?
A round cake has a diameter of 40 cm. What is its circumference?
What is the radius of a circle with a circumference of 54 cm?
The diameter of a circular fountain is 10 m. What is its circumference?
If a circle has a circumference of 63 cm, what is its diameter?
A circular track has a diameter of 500 m. What is its circumference?
What is the diameter of a circle with a circumference of 39 cm?
The circumference of a circular playground is 306 m. What is its diameter?
A roundabout has a diameter of 30 m. What is its circumference?
What is the radius of a circle with a circumference of 48 cm?

PREVIEW

© Super Simple Sheets

Name: _____ 178

Curriculum Connection
E2.3

Calculating Circumferences

The circumference of a circle is slightly more than 3 times the length of the diameter, or a little more than 6 times the length of the radius. When we need to calculate the circumference of a circle more precisely, we use pi (π). Pi is equal to approximately 3.14, but it is an irrational number, meaning it never ends!



Calculating Circumference (Diameter)

$c = \pi d$ or $c = \pi \times d$

Calculating Circumference (Radius)

$c = 2\pi r$ or $c = 2 \times \pi \times r$

PREVIEW

Practice Calculate the circumference of the circles below

1)

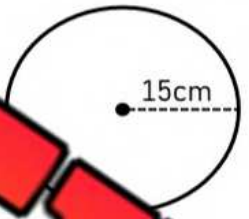


Radius = _____

Diameter = _____

Circumference = _____

2)



Radius = _____

Diameter = _____

Circumference = _____

3)

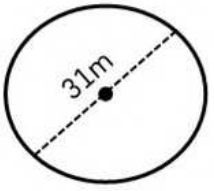


Radius = _____

Diameter = _____

Circumference = _____

4)



Radius = _____

Diameter = _____

Circumference = _____

5)



Radius = _____

Diameter = _____

Circumference = _____

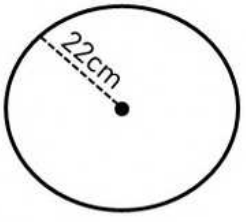


Radius = _____

Diameter = _____

Circumference = _____

7)

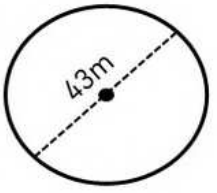


Radius = _____

Diameter = _____

Circumference = _____

8)



Radius = _____

Diameter = _____

Circumference = _____

9)



Radius = _____

Diameter = _____

Circumference = _____

© Super Simple Sheets

Name: _____ 179

Curriculum Connection
E2.3

Calculating Circumferences

Calculating Circumference (Diameter)
$c = \pi d$ or $c = \pi \times d$

Calculating Circumference (Radius)
$c = 2\pi r$ or $c = 2 \times \pi \times r$

Part 1 — Fill in the table with the missing information

	Radius	Diameter	Circumference
1)	6cm		
2)	1		
3)		22m	
4)		46cm	
5)	16m		
6)			
7)	2.5km		
8)	6.8m		
9)		1	
10)		48.6mm	

PREVIEW

Part 2 — Answer the word problems below

1)	Harrison is deciding which pizza to buy. He has two options. Option A: Pizza with the radius of 18cm Option B: Pizza with a circumference of 106cm Which pizza is larger? 	
2)	You need to wrap a label around a can. If the diameter of the can is 9.5cm, what length does the label need to be? 	
3)	Alexa needs to wrap a cake she made with a ribbon. The cake has a radius of 12.5cm. How long does the ribbon need to be? 	

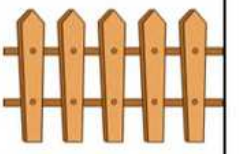
© Super Simple Sheets

Name: _____ 180

Curriculum Connection
E2.3

Circumferences Word Problems

Questions | Answer the word problems below

1)	An asteroid hit the moon and created a massive round crater. Scientists measured the diameter of the crater as 31.2km. What is the circumference of the crater? 
2)	Geo[illegible]d[illegible] a fence around his circular yard. His house is in the centre of [illegible] from his house to the edge of the yard is 15.5 metres. a) [illegible]hat is [illegible]ter of his yard?  b) If 1 metre [illegible] how much will his fence cost him?
3)	Mark can run 100m in 14 second[illegible] is at a [illegible]r track and is trying to figure out how long it will take him to run [illegible]s. Th[illegible] has a diameter of 16m. a) What distance is the track? b) Approximately how long will it take him to run around four times? 
4)	The radius of your bicycle wheel is 40cm. a) How far will your bike move in one turn of your wheel?  b) Neill thinks it will take around 3 rotations of the wheel to move 1m. Dane thinks it will take around 4. Who is correct?

PREVIEW

© Super Simple Sheets

Name: _____ 183

Curriculum Connection
E2.4

Drawing Circles Using Radius and Diameter

A circle is a shape that has all points in a plane that are equal distance from the centre point. Therefore, an oval is not a circle. We can draw a circle by using a tool called a compass.



Draw Use a compass and a ruler to draw the circles below

1) Radius = 2cm Diameter = _____	2) Radius = _____ Diameter = 3cm
3) Radius = _____ Diameter = 6cm	4) Radius = 2.5cm Diameter = _____
5) Radius = _____ Diameter = 40mm	6) Radius = 1cm Diameter = _____

PREVIEW

© Super Simple Sheets

Name: _____ 186

Curriculum Connection
E2.5

Area of a Circle - Radius

The area of a circle is the region inside the circle. We can calculate the area of a circle by using its radius. For most calculations, we can use 3.14 for pi. The formula is pi x radius^2. We can write this as $a = \pi r^2$

Calculating Area Using Radius



$a = \pi r^2$
$a = \pi \times 8 \times 8$
$a = 200.96\ m^2$

Practice Calculate the area of the circles using the radius

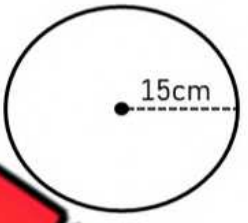
PREVIEW

1)

Radius = _____

Area = _____

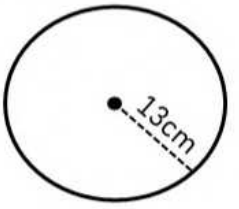
2)



Radius = _____

Area = _____

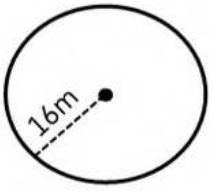
3)



Radius = _____

Area = _____

4)



Radius = _____

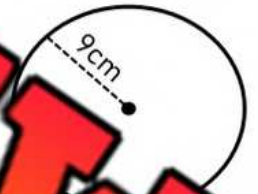
Area = _____

5)



Radius = _____

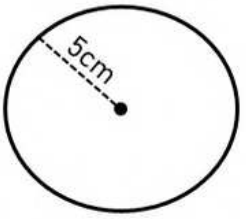
Area = _____



Radius = _____

Area = _____

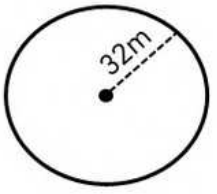
7)



Radius = _____

Area = _____

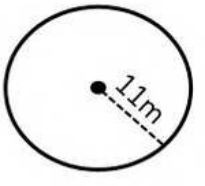
8)



Radius = _____

Area = _____

9)



Radius = _____

Area = _____

© Super Simple Sheets

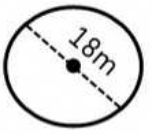
Name: _____ 187

Curriculum Connection
E2.5

Area of a Circle - Diameter

When we know the diameter of a circle, we can divide it by two to get the radius. Once we have the radius, we can use it to calculate the area of a circle using the formula: $a = \pi r^2$

Calculating Area Using Diameter



$a = \pi r^2$
diameter = 18, radius = 9
$a = \pi \times 9 \times 9$
$a = 254.34\ m^2$

Practice Calculate the area of the circles using the diameter

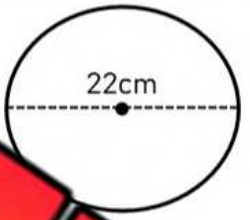
PREVIEW

1)



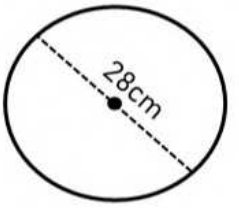
Diameter = _____
Radius = _____
Area = _____

2)



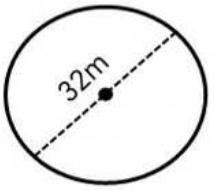
Diameter = _____
Radius = _____
Area = _____

3)



Diameter = _____
Radius = _____
Area = _____

4)



Diameter = _____
Radius = _____
Area = _____

5)



Diameter = _____
Radius = _____
Area = _____



Diam = _____
Radius = _____
Area = _____

Word Problems Solve the problems below



	Questions	Answer
1)	A dinner plate has a diameter of 14cm. What is the area of the plate?	
2)	A circular table is 1.2 metres wide. What is the area of the table in centimetres?	

© Super Simple Sheets

Name: _____ 188

Curriculum Connection
E2.5

Calculating Area of a Circle - Circumference

We can calculate the radius of a circle by using the circumference. Once we have the radius of a circle, we can figure out its area.

Calculating Radius From Circumference

$$r = \frac{c}{\pi} \div 2$$

Calculating Area Using Radius

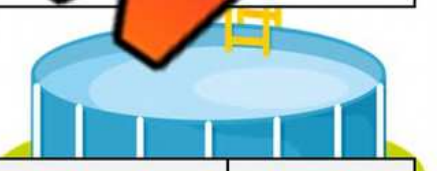
$$a = \pi r^2$$

Practice Calculate the area and radius. Round to the nearest tenth

	Circumference	Radius	Area
1)	12 mm	1.9 mm	11.3 mm^2
2)			
3)	22		
4)	42 cm		
5)	36 m		
6)	58 mm		
7)	55 km		
8)	17 m		
9)	63 cm		
10)	76 mm		

PREVIEW

Part 2 Answer the word problems below



	Questions	Answer
1)	A pool has a perimeter of 15m. What is the area inside the pool?	
2)	A ribbon that wraps around a circular present is 42cm. What is the area of the present?	
3)	The city of Williamsport is building a circular track. The track is 400m long. What will the area inside the track be?	

© Super Simple Sheets

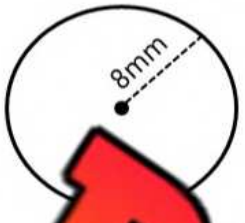
Name: _____ 191

Curriculum Connection
E2.5

Circle – Mixed Review

Practice | Fill in the blanks below

1)



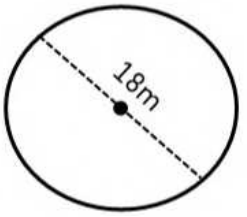
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

2)



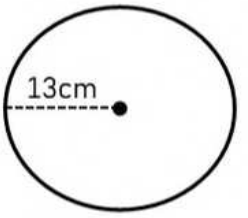
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

3)



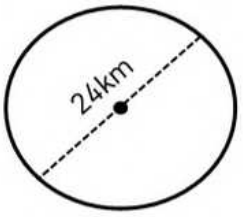
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

4)



Radius = _____

Diameter = _____

Circumference = _____

Area = _____

5)



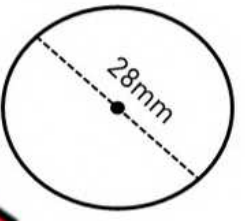
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

6)



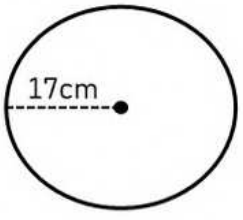
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

7)



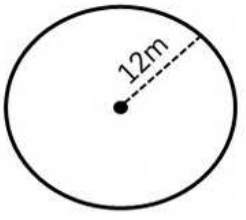
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

8)



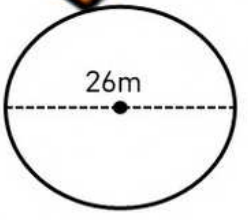
Radius = _____

Diameter = _____

Circumference = _____

Area = _____

9)



Radius = _____

Diameter = _____

Circumference = _____

Area = _____

PREVIEW

© Super Simple Sheets

Name: _____ 197

Curriculum Connection
E2.5

Circle – Basketball Word Problems

Questions | Answer the word problems below

A basketball hoop has a circumference of 145cm. A standard NBA basketball has a circumference of 75cm.

a) Can 2 NBA basketballs fit through the hoop at the same time?



b) A WNBA basketball has a circumference [illegible]cm. W[illegible]BA basketballs fit through the hoop at the same time?



PREVIEW

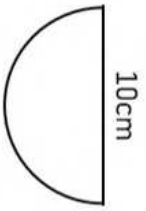
© Super Simple Sheets

Name: _____ 199

Curriculum Connection
E2.5

Semi - Circle

A semi-circle is half of a circle. If we can find the area of a full-circle, we can divide it by two to find the area of a semi-circle.



Calculating Area of Semi-Circle

$a = \pi r^2 \div 2$

diameter = 10, radius = 5

$a = 3.14 \times 5 \times 5 \div 2$

$a = 78.5\ cm^2 \div 2$

area of semi-circle = $39.25\ cm^2$

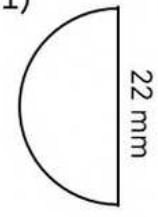
Part 1 Complete the table below

	Diameter	Radius	Area of Full Circle	Area of Semi-Circle
1)	6 cm			
2)	4 km			
3)	24 m			
4)	10 mm			
5)	16 m			
6)	30 cm			

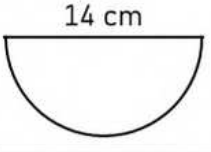
PREVIEW

Part 2 Calculate the area of the semi-circles

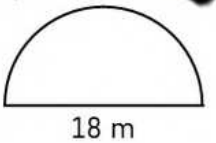
1)



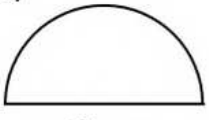
2)



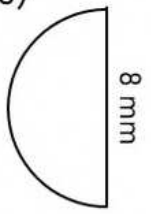
3)



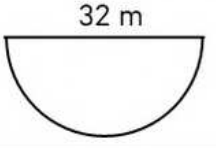
4)



5)



6)



© Super Simple Sheets

Name: _____ 200

Curriculum Connection
E2.5

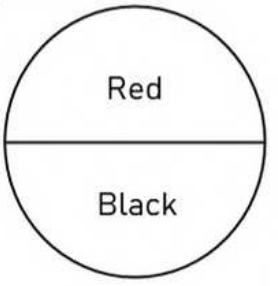
Semi - Circle – Word Problems

Questions | Answer the word problems below

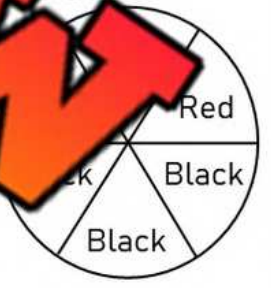
1) A semi-circle shaped rug has a diameter of 44cm. What is the area of the rug?



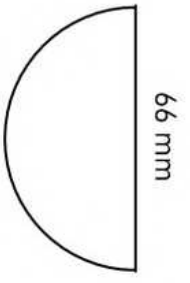
2) A circul[illegible]has 2[illegible]ns, half red and half green. The spinner has a radius of 8[illegible]at is [illegible]the red side of the spinner?



3) A circular spinner has 6 sections. Half are [illegible]. If the diameter of the spinner is 18cm, what is the a[illegible]e sec[illegible]the spinner?



4) A semi-circle window has a diameter of 66cm. What is the area of the window?



PREVIEW

© Super Simple Sheets

Curriculum Connection
E2.5

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Calcu[illegible]he area of the semi-circle.



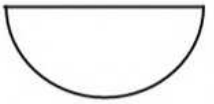
Area = _____

2) A semi-circle playg[illegible] h[illegible] a radius of 10 meters. What [illegible] area of the playground?

_____

Name: _____

1) Calculate the area of the semi-circle.



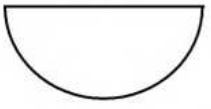
Area = _____

) A semi-circle playground has a [illegible]s of 10 meters. What is the area of t[illegible]yground?

_____

Name: _____

1) Calculate the area of the semi-circle.



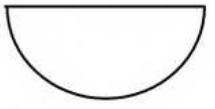
Area = _____

2) A semi-circle playground has a radius of 10 meters. What is the area of the playground?

_____

Name: _____

1) Calculate the a[illegible] circle.



Area = _____

2) A semi-circle playground has a radius of 10 meters. What is the area of the playground?

_____

PREVIEW

Name: _____ 202

Curriculum Connection
TQ

Quiz - Circles

Part 1 Fill in the table below

	Radius	Diameter
1)	12 cm	
2)		17 mm
3)		45 m

	Radius	Diameter
4)	7.5 km	
5)	22.5 m	
6)		88 cm

Part 2 Fil[illegible]nks

1)



Radius = _____

Diameter = _____

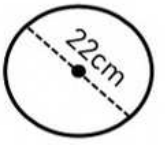
Circumference = _____

Radius = _____

Diameter = _____

Circumference = _____

3)



Part 3 Calculate the diameter and radius. Round to the nearest te[illegible]

	Radius	Diameter	Circumference
1)	5 mm		
2)		16 m	
3)			22 cm
4)	32 mm		
5)			55 m

PREVIEW

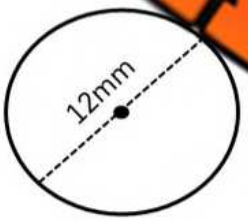
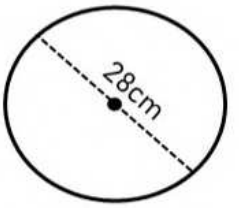
© Super Simple Sheets

Curriculum Connection
TQ

Part 4 Use a compass and a ruler to draw circles below

1)	2)
Radius = 2 Diameter	Radius = _____ Diameter = 3cm

Part 5 Calc rea of the circles

1)		3)
		
Diameter = _____ Radius = _____ Area = _____	Diameter _____ Radius = _____ Area = _____	meter = _____ a(= rea = _____

Part 6 Solve the problems below

	Questions	Answer
1)	The distance around a carousel is 18m. What is its radius? 	
2)	A dog has its leash tied to a stake in a backyard. The dog's leash is 6.5 metres long. How much area can the dog play in?	
3)	The diameter of a wheel on a car is 25 centimetres. How far does the car move with one rotation of the wheel? 	

PREVIEW

© Super Simple Sheets

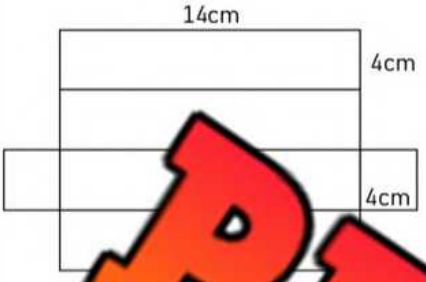
Name: _____ 204

Curriculum Connection
E2.6

Surface Area Using Nets – Prisms

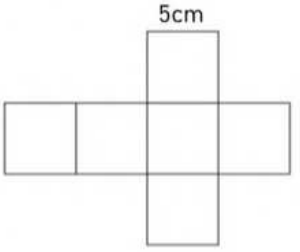
Instruction Find the surface area of the 3D objects using the nets below

1) Rectangular Prism



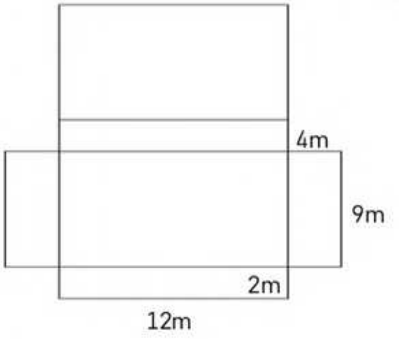
Surface

2) Cube



Surface Area: _____

3) Rectangular



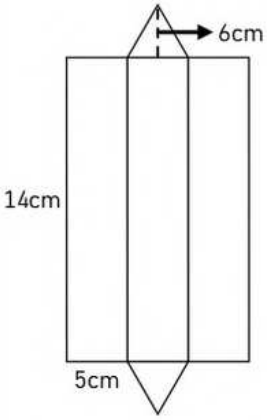
Surface Area: _____

4) Triangular Prism



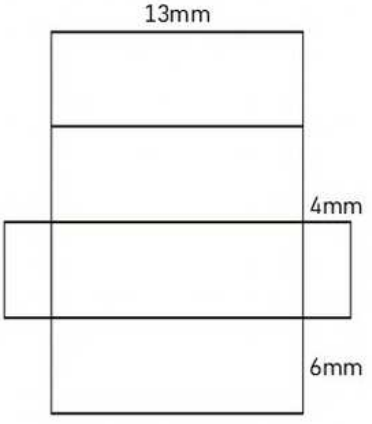
Surface Area: _____

5) Triangular Prism



Surface Area: _____

6) Rectangular Prism



Surface Area: _____

PREVIEW

© Super Simple Sheets

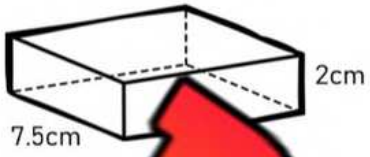
Name: _____ 206

Curriculum Connection
E2.6

Calculating Surface Area Using Nets – Prisms

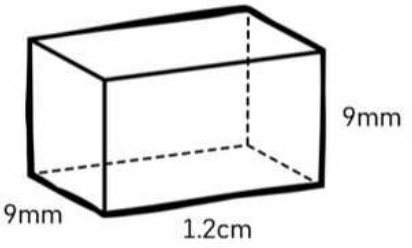
Instruction Find the surface area of the 3D objects below

1) Rectangular Prism



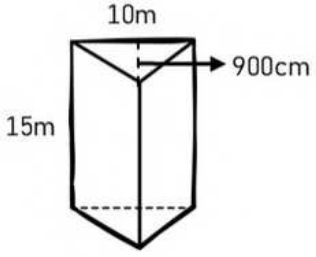
Surface A_____

2) Rectangular Prism



Surface Area: _____

3) Triangular Pris_____



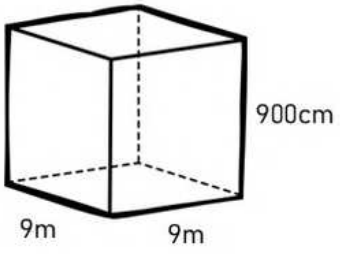
Surface Area: _____

4) Rectangular Prism



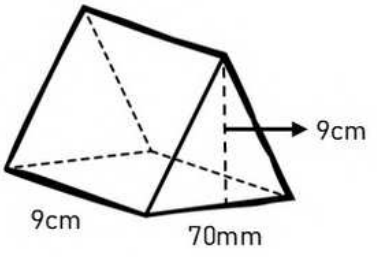
Surface Area: _____

5) Cube



Surface Area: _____

6) Triangular Prism



Surface Area: _____

PREVIEW

© Super Simple Sheets

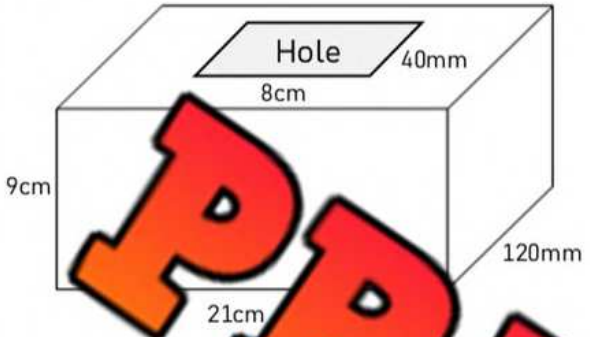
Name: _____ 208

Curriculum Connection
E2.6

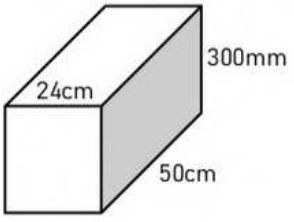
Surface Area – Prism – Word Problems

Instruction Solve the word problems below

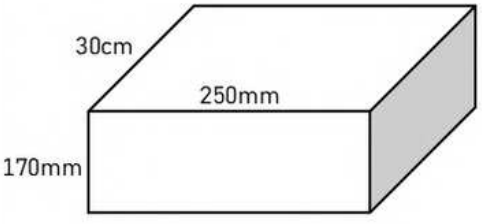
1) Find the surface area of the tissue box below.



2) Edward is paint[illegible] needs to find the surface area so he can buy the amount [illegible] mailbox has no door on the front. Find the surface area of [illegible] diagram below.



3) Kaitlyn needs to wrap her mom's birthday present. She has enough wrapping paper to cover a surface area of 3500cm². Does she have enough paper?



PREVIEW

© Super Simple Sheets

Name: _____ 209

Curriculum Connection
E2.6

Calculating Surface Area - Pyramids

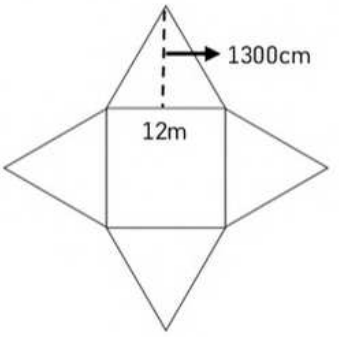
Instruction Find the surface area of the pyramids using the nets below

1) Triangular Pyramid



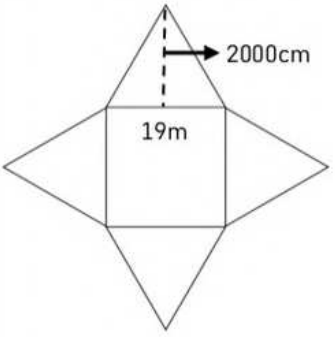
Surface Area: _____

2) Square Pyramid



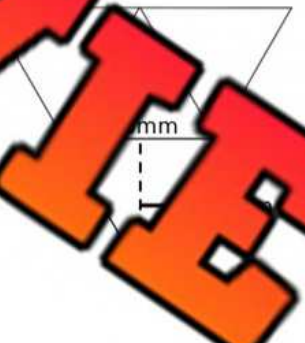
Surface Area: _____

3) Square Pyramid



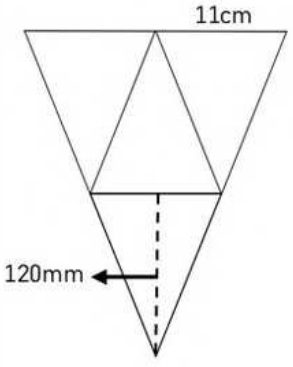
Surface Area: _____

4) Triangular Pyramid



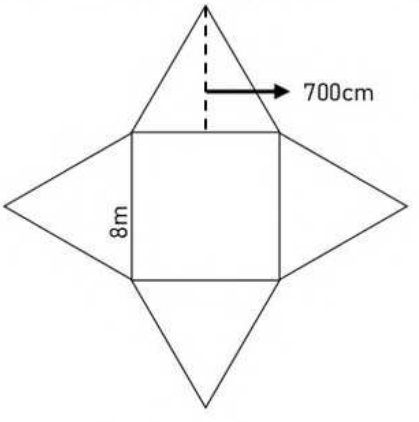
Surface Area: _____

5) Triangular Pyramid



Surface Area: _____

6) Square Pyramid



Surface Area: _____

PREVIEW

© Super Simple Sheets

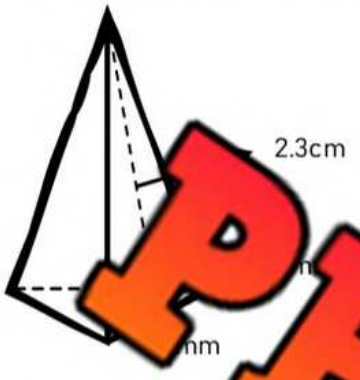
Name: _____ 210

Curriculum Connection
E2.6

Calculating Surface Area - Pyramids

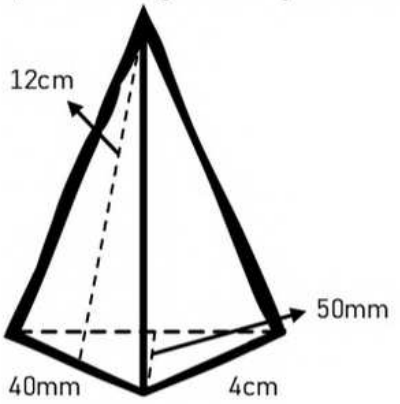
Instruction Solve the questions below

1) Triangular Pyramid



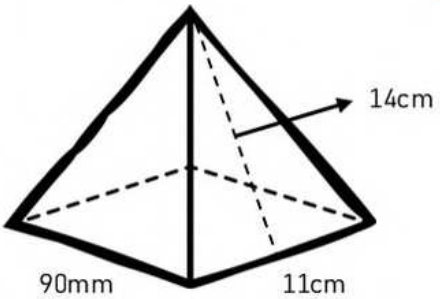
Surface Area: _____

2) Triangular Pyramid



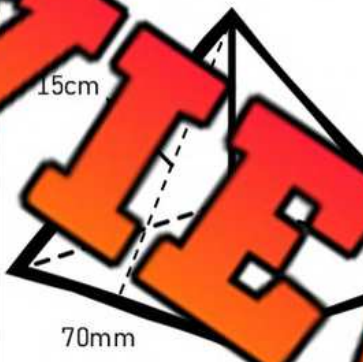
Surface Area: _____

3) Rectangular Pyramid



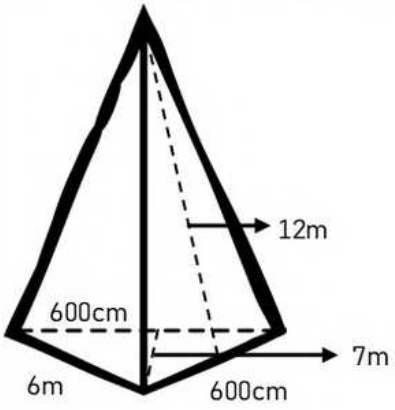
Surface Area: _____

4) Square Pyramid



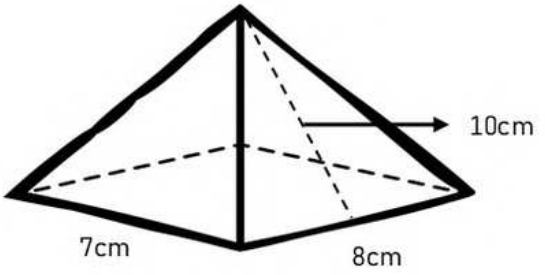
Surface Area: _____

5) Triangular Pyramid



Surface Area: _____

6) Rectangular Pyramid



Surface Area: _____

PREVIEW

© Super Simple Sheets

Name: _____ 214

Curriculum Connection
E2.6

Surface Area - Cylinders

Instruction Solve the questions below



1) A can of soup has a diameter of 9cm and a height of 19cm. What is the surface area of the can?

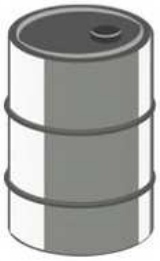


2) A can of tuna has a radius of 7.5cm and a height of 42mm. What is the surface area of the can?



3) A battery is composed of two cylinders. The main battery cylinder has a radius of 7mm. The height of the main cylinder is 8cm. The smaller cylinder on top of the battery has a diameter of 8mm and a height of 4mm.

What is the total surface area of the battery?



4) A barrel has a diameter of 74cm and a height of 1.62m. What is the surface area of the barrel?

PREVIEW

Name: _____ 217

Curriculum Connection
E2.7

Calculating Volume Using the Base

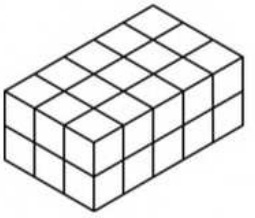
Instruction Fill in the blanks to investigate the area of the base and the height

1)



Area of Base	Height	Volume
		18

2)



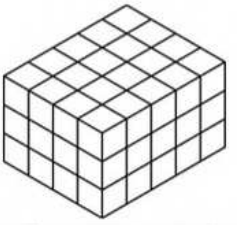
Area of Base	Height	Volume

3)



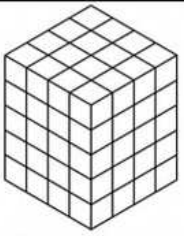
Area of Base	Height	Volume

4)



Area of Base	Height	Volume

5)



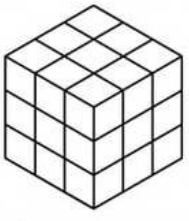
Area of Base	Height	Volume

6)



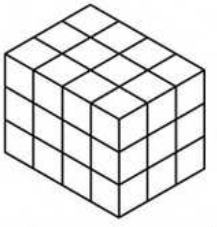
Area of Base	Height	Volume

7)



Area of Base	Height	Volume

8)



Area of Base	Height	Volume

PREVIEW

© Super Simple Sheets

Name: _____ 218

Curriculum Connection
E2.7

Calculating Volume Using the Base

Part 1 Fill in the blanks to investigate the area of the base and the height

	Area of Base	Height	Volume
1)	10 cm^2		80 cm^3
2)	13 mm^2	6 mm	
3)		5 cm	75 cm^3
4)		8 mm	96 mm^3
5)		9 m	
6)	16		144 mm^3
7)			132 km^3
8)	15 m^2		210 m^3

PREVIEW

Part 2 Answer the questions below

1)	A box of cereal has a base with a length of 12c wid 9cm. The height of the box is 22cm. What is the vo of box? 
2)	A juice box is 9cm wide and 5cm long. The height of the juice box is 12cm. What is the volume of the juice box? 
3)	A railway car is 6.5m long and 2.2m wide. The railway car is 3.1m tall. What is the volume of the railway car? 

© Super Simple Sheets

Name: _____ 221

Curriculum Connection
E2.7

Volume - Cylinders

Part 1 Fill in the blanks to investigate the area of the base and the volume

	Radius	Area of Base	Height	Volume
1)	8 mm		12 mm	
2)	mm		18 mm	
3)			9 cm	
4)			7 km	
5)	9		7 cm	
6)	12 cm		8 cm	
7)	4 m		13 m	
8)	7 m		11 m	

PREVIEW

Part 2 Answer the questions below

1)	The radius of a swimming pool is 3.6 metres. The height of the pool is 1.8 metres. What is the volume of the swimming pool? 
2)	A can's base has an area of 32 cm^2. The volume of the can is 288cm^3. What is the height of the can? 
3)	A bucket has a height of 8cm. The bucket's base has an area of 20cm^2. a) What is the volume of the bucket? b) If 1cm^3 of volume has the capacity to hold 1mL of water, how many mL can the bucket hold? 

© Super Simple Sheets

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) Fill in the blanks to investigate the area of the base, height, and the volume.

	Radius	Area of Base	Height	Volume
1)			10cm	
2)			15cm	
			20cm	392.5cm³
	7cm	154cm²		924cm³

2) A cylindrical water tank has a base area of 200 cm² and a height of 2 meters.

a) What is the volume of the water tank in cubic centimeters (cm³)?

b) If 1 liter of water is equal to 1,000 cm³, how many liters of water can the tank hold?

Name: _____

1) Fill in the blanks to investigate the area of the base, height, and the volume.

	Radius	Area of Base	Height	Volume
1)	6cm		10cm	
2)	4cm		15cm	
3)	2.5cm		20cm	392.5cm³
4)	7cm	154cm²		924cm³

2) A cylindrical water tank has a base area of 200 cm² and a height of 2 meters.

a) What is the volume of the water tank in cubic centimeters (cm³)?

b) If 1 liter of water is equal to 1,000 cm³, how many liters of water can the tank hold?

PREVIEW

© Super Simple Sheets

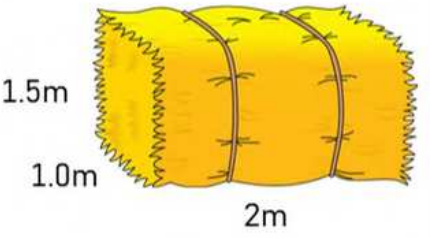
Name: _____ 224

Curriculum Connection
E2.7

Volume of Cylinders

Instruction Answer the questions below

1) There are two types of hay bales – one that is in the shape of a cylinder and one that is in the shape of a rectangular prism. The cylinder-shaped hay bale is 300cm tall and 150cm long. The rectangular-shaped hay bale has the following dimensions: 1.5m by 1.0m by 2.0m.



a) Which type of hay bale contains more hay?



b) Joel thinks that a cylinder-shaped hay bale out of 3 rectangular-shaped bales. Is he right? Explain.

PREVIEW

2) You are planning to make candles to sell. What would the dimensions of the candles be?

a) Draw a picture of one of the candles and label the dimensions.

b) What is the volume of the candle?

c) For every $10cm^3$, it costs you 30 cents. How much would the candle cost you in total?

© Super Simple Sheets

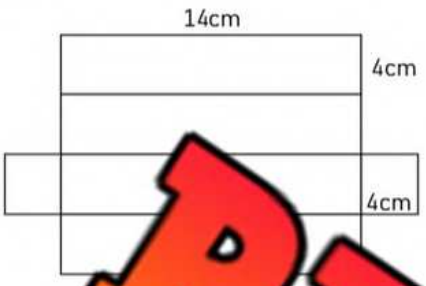
Name: _____ 230

Curriculum Connection
TQ

Unit Test – Surfaces Area and Volume

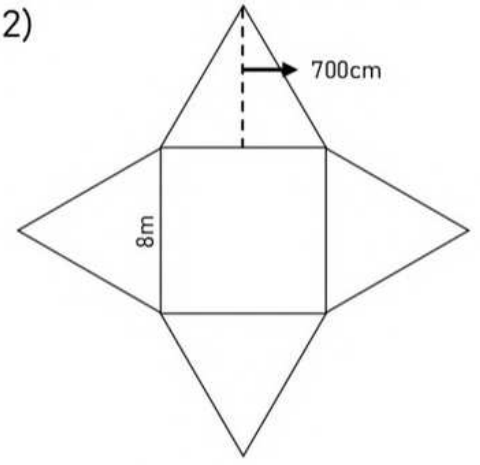
Part 1 Find the surface area of the 3D objects using the nets below

1)



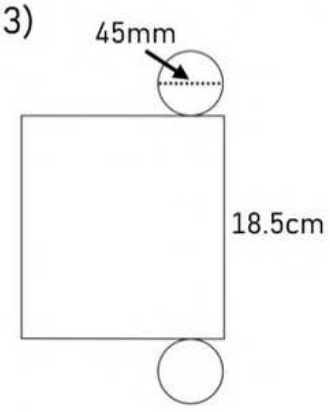
Surface Area: _____

2)



Surface Area: _____

3)



Surface Area: _____



Surface Area: _____

PREVIEW

Part 2 Solve the question below

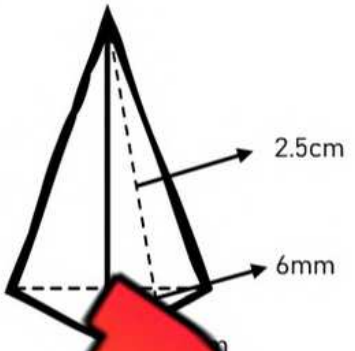
A medicine jar has a diameter of 6 cm and a height of 12cm. What is the surface area of the jar?



© Super Simple Sheets

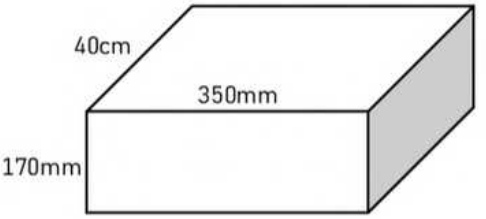
Part 3 — Find the surface area of the objects below

1)



Surface Area: _____

2)



Surface Area: _____

3)



Surface Area: _____

4)



Surface Area: _____

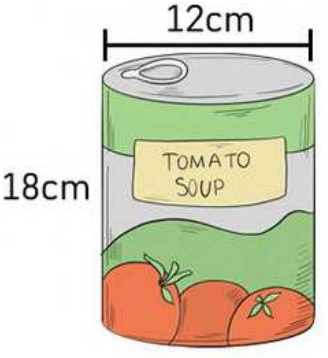
PREVIEW

Part 4 — Solve the question below

Becky takes the lid off a can of soup. The can's dimensions are labelled on the picture.

a) What is the surface area of the can without the lid?

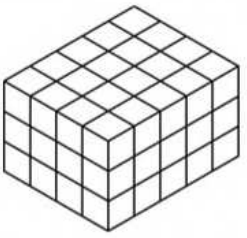
b) What is the surface area of the lid?



© Super Simple Sheets

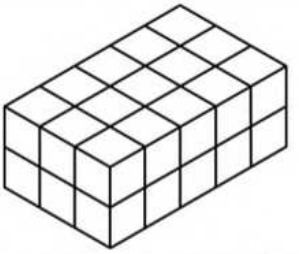
Part 5 Fill in the blanks to investigate the area of the base and the volume

1)



Area of B[illegible]	Height	Volume

2)



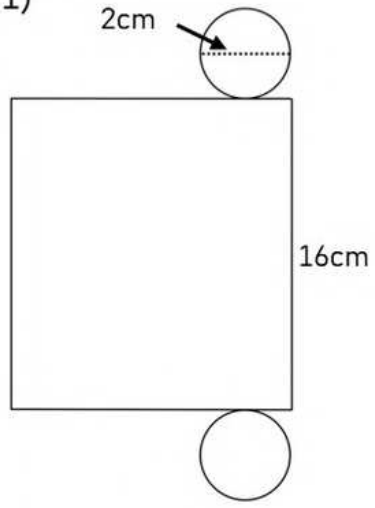
Area of Base	Height	Volume

Part [illegible] Fill in the blanks to investigate the area of the base and the volume

	Area of Base	Height	Volume
1)	11 [illegible]		110 cm^3
2)	15 mm^2		
3)		[illegible]m	96 cm^3
4)		11 mm	132 mm^3

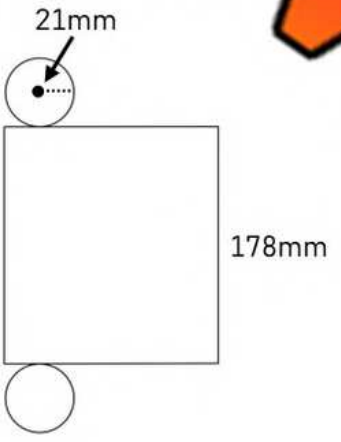
Part 7 Find the area of the base and the [illegible]olume of the cylinders

1)



Area of the Base: _____ Volume: _____

2)

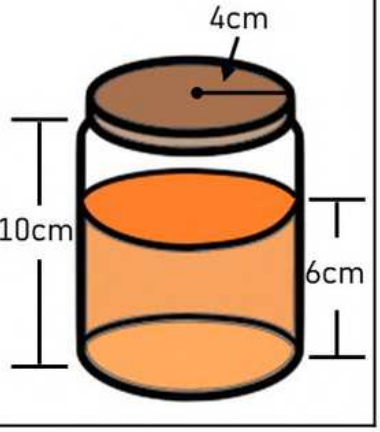


Area of the Base: _____ Volume: _____

PREVIEW

© Super Simple Sheets

Part 8 Answer the questions below

1)	The radius of a swimming pool is 4.2 metres. The height of the pool is 1.6 metres. a) What is the volume of the pool? b) If $1cm^3$ of volume has the capacity to hold 1mL of water, how many mL can the pool hold? 
2)	A [illegible]ase has an area of 37 cm^2. The volume of the can is [illegible]. What is the height of the can? 
3)	A bucket has a he[illegible]7cm [illegible]t's base has an area of 16cm^2. What is the vo[illegible]e of [illegible]? 
4)	A jar is missing some honey. When it was bought from the sto[illegible]e, it was full to the top of the jar. a) What is the volume of the jar? b) How much honey is missing from the jar? 

PREVIEW

© Super Simple Sheets