

*Important Concepts . . .*

# Preview Review



**Mathematics   Grade 8   TEACHER KEY**  
**W3 - Quiz**

## Important Concepts of Grade 8 Mathematics

W1 - Lesson 1 .....	Perfect Squares and Square Roots
W1 - Lesson 2 .....	Working with Ratios and Rates
W1 - Lesson 3 .....	Multiplying and Dividing Fractions
W1 - Lesson 4 .....	Multiplying and Dividing Integers
W1 - Lesson 5 .....	Working with Percents
W1 - Review	
W1 - Quiz	
W2 - Lesson 1 .....	Modelling and Solving Linear Equations Using Algebra Tiles
W2 - Lesson 2 .....	Solving Linear Equations
W2 - Lesson 3 .....	Graphing and Analyzing Linear Relations
W2 - Lesson 4 .....	Critiquing the Representation of Data
W2 - Lesson 5 .....	Probability of Independent Events
W2 - Review	
W2 - Quiz	
W3 - Lesson 1 .....	Pythagorean Theorem
W3 - Lesson 2 .....	Calculating Surface Area
W3 - Lesson 3 .....	Calculating Volume
W3 - Lesson 4 .....	Drawing 3-D Objects
W3 - Lesson 5 .....	Congruence of Polygons
W3 - Review	
W3 - Quiz	

## Materials Required

Protractor  
Ruler  
Calculator

**No Textbook  
Required**

**This is a stand-  
alone course.**

## Mathematics Grade 8

Version 6

Preview/Review W3 - Quiz

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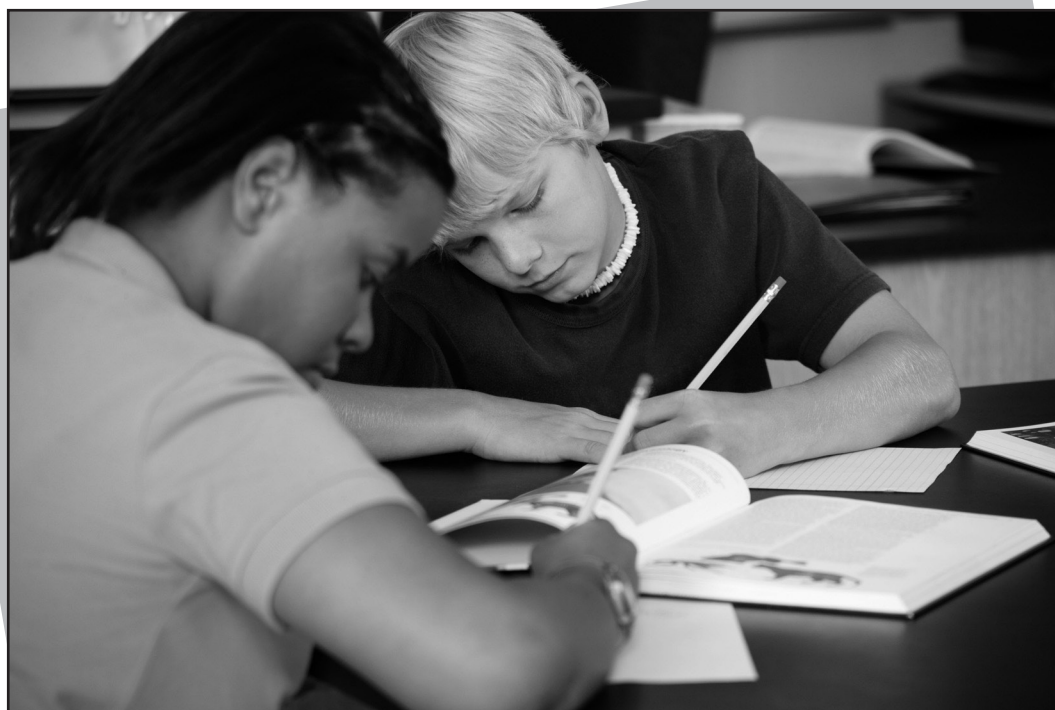
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# Preview/Review Concepts for Grade Eight Mathematics

## Teacher Key



*W3 – Quiz*

# QUIZ

This quiz should take between 25 and 40 minutes.

A pencil, eraser, and a scrap piece of paper (for rough work) are the only materials allowed for the quiz.

Teacher may choose to weight each question differently

Print your name neatly on the quiz.

Complete all questions on the quiz.

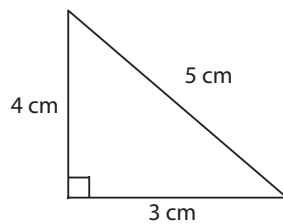
Hand in the quiz when you complete it.

## Week 3 – Quiz

### Part I: Multiple-Choice

Be sure to read each question carefully. Write the letter of the **best** answer in the blank in front of each question.

- B**   1. Using the given diagram, select the correct measurement of the hypotenuse.



- B**   2. The formula for the surface area of a cylinder is  $SA=2\pi r^2+2\pi rh$ . What do  $r$  and  $h$  represent?

- A.  $r$  = radius of the length,  $h$  = height of the base
- B.  $r$  = radius of the base,  $h$  = height of the cylinder
- C.  $r$  = radius of the height,  $h$  = height of the radius
- D.  $r$  = radius of the cylinder,  $h$  = height of the base

- A**   3. The general formula used to calculate the volume of any 3-D right prism is

- A.  $V = A_{\text{base}} \times \text{height}$
- B.  $V = \text{base} \times \text{height}$
- C.  $V = A_{\text{height}} \times \text{base}$
- D.  $V = \text{Area} \times \text{base} \times \text{height}$

**B**

4. When the coordinates of the image are exact opposites of the x and y-coordinates of the original shape, then which of the following transformations has occurred?

A. Rotation  $90^\circ$  clockwise  
B. Rotation  $180^\circ$  clockwise  
C. Rotation  $90^\circ$  counter clockwise  
D. Rotation  $270^\circ$  counter clockwise

**D**

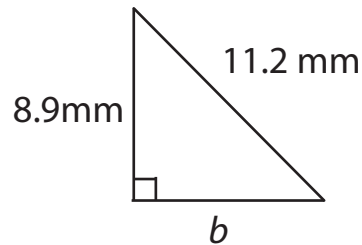
5. In order for a shape to be able to tessellate the sum of the angles at the point of tessellation must equal

A.  $60^\circ$   
B.  $90^\circ$   
C.  $180^\circ$   
D.  $360^\circ$

## Part II: Short Answer

1. Find the length of the unknown side. Round your answer to the nearest tenth of a unit. (2 marks each)

a.



$$a^2 + b^2 = c^2$$

$$(8.9)^2 + b^2 = (11.2)^2$$

$$79.21 + b^2 = 125.44$$

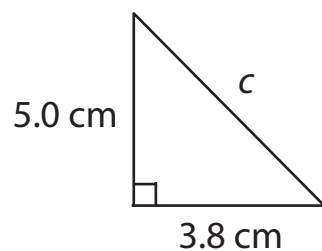
$$79.21 - 79.21 + b^2 = 125.44 - 79.21$$

$$b^2 = 46.23$$

$$\sqrt{b^2} = \sqrt{46.23}$$

$$b \approx 6.8 \text{ mm}$$

b.



$$a^2 + b^2 = c^2$$

$$(3.8)^2 + 5^2 = c^2$$

$$14.44 + 25 = c^2$$

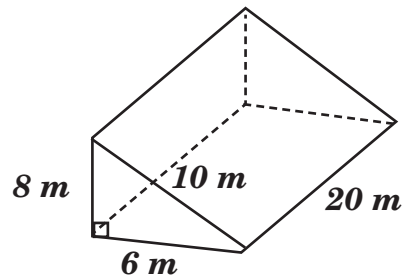
$$39.44 = c^2$$

$$\sqrt{39.44} = \sqrt{c^2}$$

$$6.3 \text{ cm} \approx c$$

2. Calculate the surface area and volume of each of the following 3-D objects. Round your answer to the nearest whole number. (2 marks each)

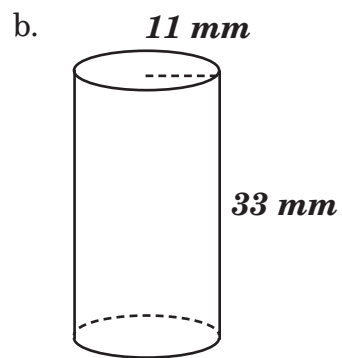
a.



$$\begin{aligned}
 V &= \left( \frac{bh}{2} \right) \times l \\
 &= \left( \frac{(6)(8)}{2} \right) \times 20 \\
 &= 24 \times 20 \\
 &= 480 \text{ m}^3
 \end{aligned}$$

$$\begin{aligned}
 SA &= A_{\text{front \& back}} + A_{\text{side 1}} + A_{\text{side 2}} + A_{\text{bottom}} \\
 &= 2 \left( \frac{bh}{2} \right) + (lw)_{\text{side 1}} + (lw)_{\text{side 2}} + (lw)_{\text{bottom}} \\
 &= 2 \left( \frac{(6)(8)}{2} \right) + (20)(10)_{\text{side 1}} + (20)(8)_{\text{side 2}} + (20)(6)_{\text{bottom}} \\
 &= 48 + 200 + 160 + 120 \\
 &= 528 \text{ m}^2
 \end{aligned}$$

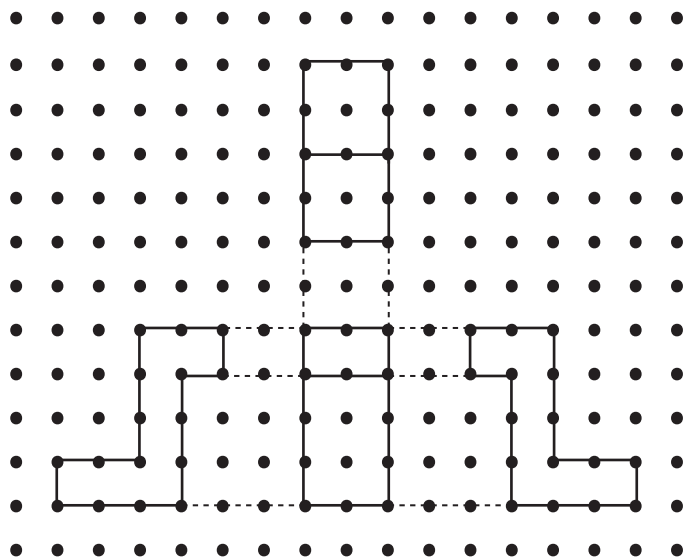
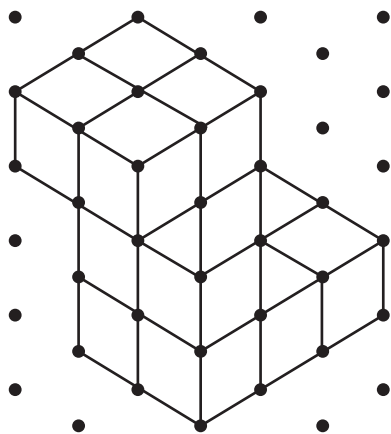




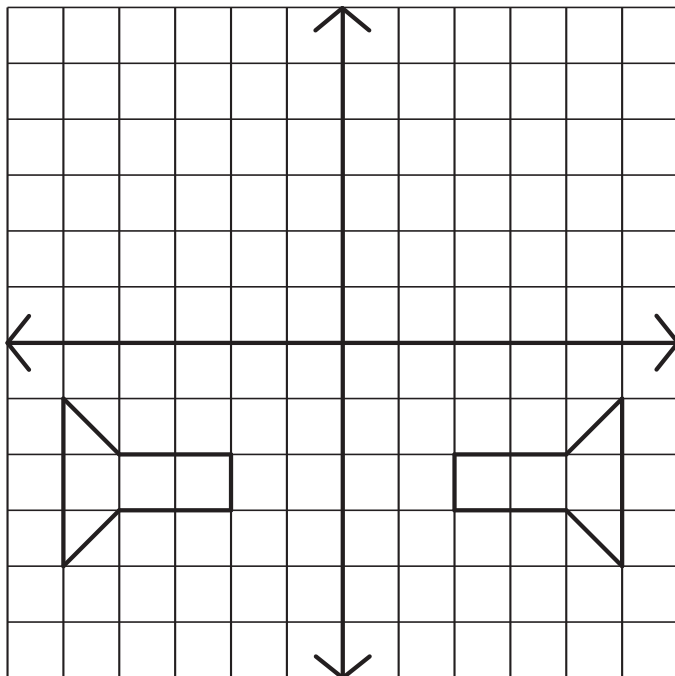
$$\begin{aligned}
 V &= \pi r^2 h \\
 &= (3.14)(11)^2(33) \\
 &= 12544 \text{ mm}^3
 \end{aligned}$$

$$\begin{aligned}
 SA &= A_{\text{top \& bottom}} + A_{\text{side}} \\
 &= 2(\pi r^2) + (2\pi rh) \\
 &= 2(\pi)(11)^2 + 2(\pi)(11)(33) \\
 &= 759.88 + 2279.64 \\
 &= 3040 \text{ mm}^2
 \end{aligned}$$

3. Draw the front, top, and side views of the following 3-D object.



4. Identify the transformation illustrated in the following diagram.



*The second shape is a mirror image of the original shape. The y-coordinates are the same and the x-values have changed to their opposite values. This diagram illustrates a reflection about the y-axis.*

