

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

ISBN 1-891894-00-6

Publisher: Alberta Distance Learning Centre

Written by: Monica dHamrait

Reviewed by: Patty Rogerson

Project Coordinator: Donna Silgard

Preview/Review Publishing Coordinating Team:

Heather Martel and Nicole Mckeand



Alberta Distance Learning Centre has an Internet site that you may find useful. The address is as follows: <http://www.adlc.ca>

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

ALL RIGHTS RESERVED

Copyright © 2010, by Alberta Distance Learning Centre, 4601-63 Avenue, Barrhead, Alberta, Canada, T7N 1P4. Additional copies may be obtained from Alberta Distance Learning Centre.

No part of this courseware may be reproduced or transmitted in any form, electronic or mechanical, including photocopying (unless otherwise indicated), recording, or any information storage and retrieval system, without the written permission of Alberta Distance Learning Centre.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Distance Learning Centre so that appropriate corrective action can be taken.

IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.

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.

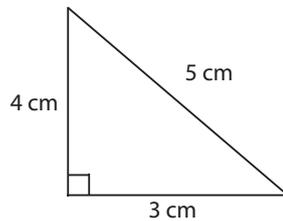
Hand in the quiz when you complete it.

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.



- A. 4 cm
- B. 5 cm
- C. 7 cm
- D. 12 cm

- 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° clockwise
- B. Rotation 180° clockwise
- C. Rotation 90° counter clockwise
- D. Rotation 270° counter clockwise

D

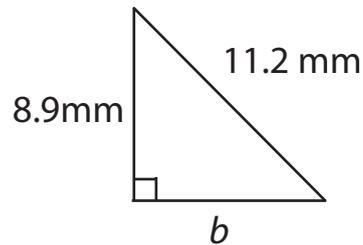
5. In order for a shape to be able to tessellate the sum of the angles at the point of tessellation must equal

- A. 60°
- B. 90°
- C. 180°
- D. 360°

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.



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

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

$$79.21 + b^2 = 125.44$$

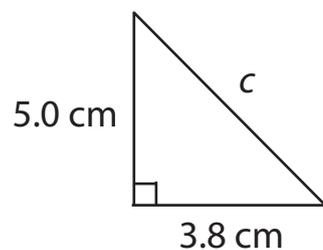
$$79.21 - 79.21 + b^2 = 125.44 - 79.21$$

$$b^2 = 46.23$$

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

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

b.



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

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

$$14.44 + 25 = c^2$$

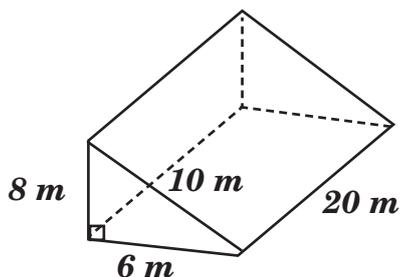
$$39.44 = c^2$$

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

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

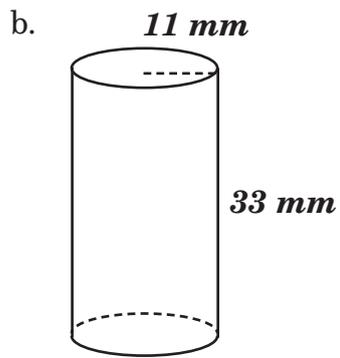
2. Calculate the surface area and volume of each of the following 3-D objects. Round your answer to the nearest whole number. (2 marks each)

a.



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

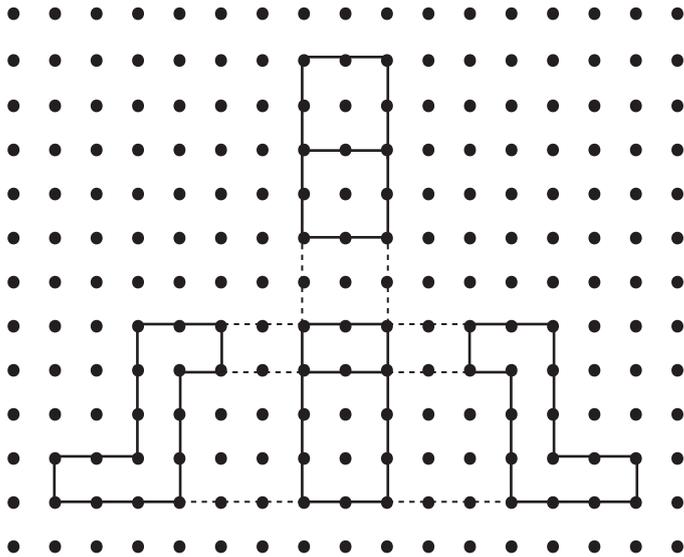
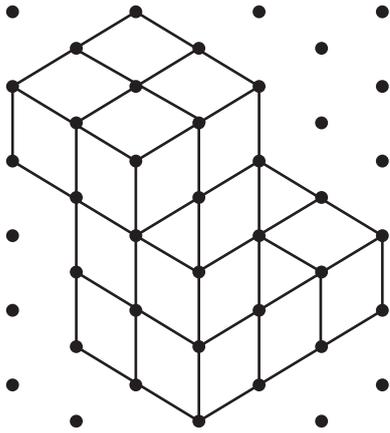
$$\begin{aligned}
 SA &= A_{\text{front \& back}} + A_{\text{side 1}} + A_{\text{side 2}} + A_{\text{bottom}} \\
 &= 2\left(\frac{bh}{2}\right) + (lw)_{\text{side 1}} + (lw)_{\text{side 2}} + (lw)_{\text{bottom}} \\
 &= 2\left(\frac{(6)(8)}{2}\right) + (20)(10)_{\text{side 1}} + (20)(8)_{\text{side 2}}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



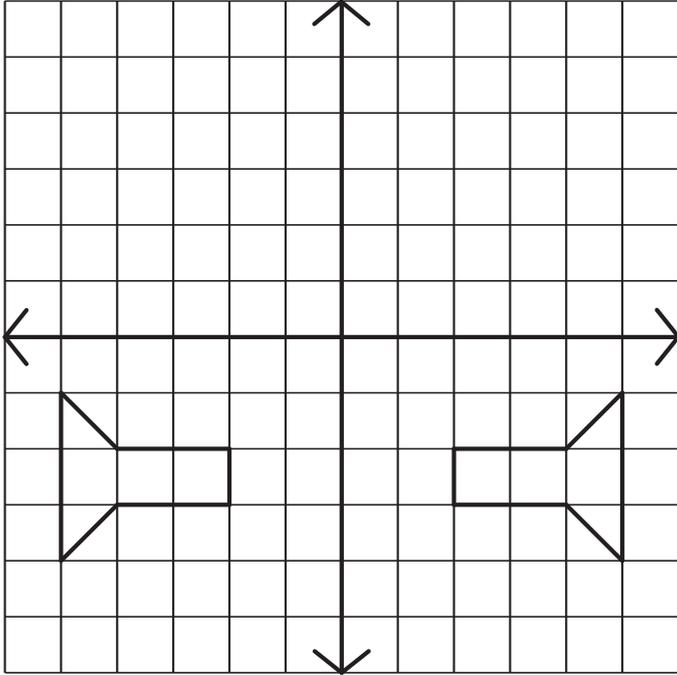
$$\begin{aligned}V &= \pi r^2 h \\&= (3.14)(11)^2(33) \\&= 12544\text{ mm}^3\end{aligned}$$

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

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.

