

Important Concepts . . .

Preview Review



Mathematics Grade 8 TEACHER KEY
W2 - 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 W2 - Quiz

ISBN 1-891894-00-6

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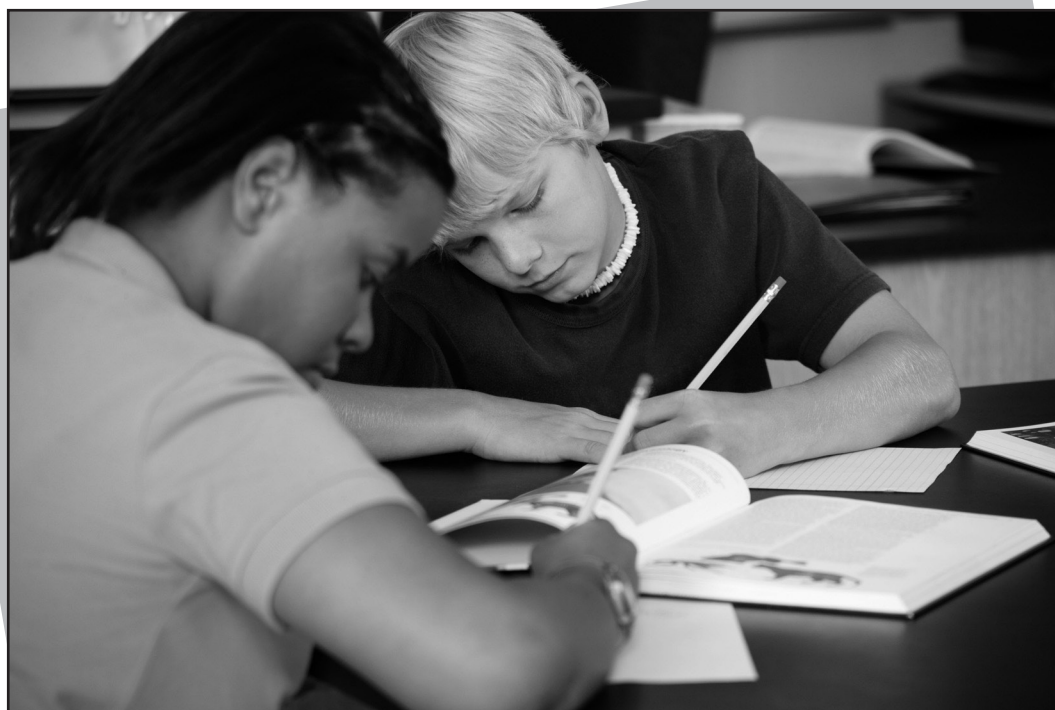
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Preview/Review Concepts for Grade Eight Mathematics

Teacher Key



W2 - 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.

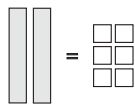
Week 2 - Quiz

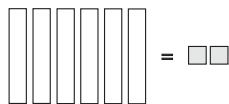
Part I: Multiple-Choice

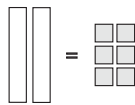
Be sure to read each question carefully. Write the letter of the **best** answer in the blank in front of each question.

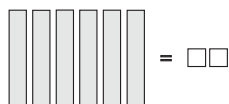
 C

1. Which of the following arrangement of algebra tiles represents $-2x = 6$?

A. 

B. 

C. 

D. 

 B

2. Which of the following situations are not examples independent events?

- A. Choosing 3 marbles out of a bag without putting the others back
- B. Picking 3 flowers out of your garden for your grandmother's bouquet.
- C. Picking 3 snacks for your 3 friends; you let the oldest friend choose their snack first, then the second oldest, and then the youngest chooses from what is left.
- D. Choosing 3 cookies from 3 different cookie jars

 B

3. Which of the following ordered pairs represents a point on the graph of $y = 2x + 14$?

- A. (5, 21)
- B. (5, 24)
- C. (24, 5)
- D. (21, 5)

C

4. Which type of graph would best represent all the different ingredients found in a birthday cake?

- A. Bar graph
- B. Line graph
- C. Circle graph
- D. Pictograph

Part II: Short Answer

Solve for the unknowns in the following linear equations. (2 marks each)

1. $9y = -63$

$$\frac{9y}{9} = \frac{-63}{9}$$
$$y = -7$$

2. $8b + 12 = -36$

$$8b + 12 = -36$$
$$8b + 12 - 12 = -36 - 12$$
$$\frac{8b}{8} = \frac{-48}{8}$$
$$b = -6$$

3. $-4(x - 12) = 40$

$$-4(x - 12) = 40$$
$$-4(x) - 4(-12) = 40$$
$$-4x + 48 = 40$$
$$-4x + 48 - 48 = 40 - 48$$
$$\frac{-4x}{-4} = \frac{-8}{-4}$$
$$x = 2$$

$$4. \quad \frac{q}{-6} + 2 = 8$$

$$\frac{q}{-6} + 2 = 8$$

$$\frac{q}{-6} + 2 - 2 = 8 - 2$$

$$\frac{q}{-6} = 6$$

$$(-6)\frac{q}{-6} = 6(-6)$$

$$q = -36$$

$$5. \quad 15 + \frac{n}{4} = 5$$

$$15 + \frac{n}{4} = 5$$

$$15 - 15 + \frac{n}{4} = 5 - 15$$

$$\frac{n}{4} = -10$$

$$4\left(\frac{n}{4}\right) = (-10)4$$

$$n = -40$$

$$6. \quad 3 - 7s = 24$$

$$3 - 7s = 24$$

$$3 - 3 - 7s = 24 - 3$$

$$-7s = 21$$

$$\frac{-7s}{-7} = \frac{21}{-7}$$

$$s = -3$$

7. Calculate the probability of each of the following events.

a. Tossing a heads on a quarter and a heads on a dime

$$\begin{aligned}
 P(A \text{ and } B) &= P(A) \times P(B) \\
 P(\text{heads and heads}) &= P(\text{heads}) \times P(\text{heads}) \\
 &= \frac{1}{2} \times \frac{1}{2} \\
 &= \frac{1}{4}
 \end{aligned}$$

b. Rolling a multiple of 3 on a regular die and tossing a heads on a coin

$$\begin{aligned}
 P(A \text{ and } B) &= P(A) \times P(B) \\
 P(\text{multiple of 3 and heads}) &= P(\text{multiple of 3}) \times P(\text{heads}) \\
 &= \frac{2}{6} \times \frac{1}{2} \\
 &= \frac{2}{12} \\
 &= \frac{1}{6}
 \end{aligned}$$

8. Bin owns 3 car rental companies. The first company is comprised of 50% SUV's. The second company is comprised of 66% SUV's. The third company is comprised of 30% SUV's. What is the probability that all the SUV's would be rented out on the same day?

Step 1: Convert each percentage into a decimal number.

$$50\% = 0.50 = \text{event } A$$

$$66\% = 0.66 = \text{event } B$$

$$30\% = 0.30 = \text{event } C$$

Step 2: Apply the formula to calculate the probability.

$$P(A \text{ and } B \text{ and } C) = P(A) \times P(B) \times P(C)$$

$$\begin{aligned} P(\text{SUV in 1st and 2nd and 3rd}) &= P(\text{SUV in 1st}) \times P(\text{SUV in 2nd}) \times P(\text{SUV in 3rd}) \\ &= 0.50 \times 0.66 \times 0.30 \\ &= 0.099 \end{aligned}$$

Step 3: Express the decimal number as a percentage.

$$0.099 \times 100 = 9.9\%$$

The probability of all the SUV's being rented out in all three car rental companies on the same day is 9.9%.

