

Important Concepts . . .

Preview Review



Mathematics Grade 9 TEACHER KEY
W1 - Quiz

Important Concepts of Grade 9 Mathematics

W1 - Lesson 1	Powers
W1 - Lesson 2	Exponents
W1 - Lesson 3	Rational Numbers
W1 - Lesson 4	Order of Operations
W1 - Lesson 5	Square Roots of Rational Numbers
W1 - Review	
W1 - Quiz	
W2 - Lesson 6	Graphing Linear Relations
W2 - Lesson 7	Solving Linear Relations
W2 - Lesson 8	Linear Inequalities
W2 - Lesson 9	Polynomials
W2 - Lesson 10	Surface Area of 3D Objects
W2 - Review	
W2 - Quiz	
W3 - Lesson 11	Properties of Circles
W3 - Lesson 12	Polygons and Scale Diagrams
W3 - Lesson 13	Rotational Symmetry
W3 - Lesson 14	Representing Data
W3 - Lesson 15	Probability
W3 - Review	
W3 - Quiz	

Materials Required

Paper
Pencil
Calculator

**No Textbook
Required**

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

Mathematics Grade 9

Version 6

Preview/Review W1 - Quiz

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Preview/Review Concepts for Grade Nine Mathematics

Teacher Key



W1 - 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 1 - Quiz

Part 1: Multiple-Choice

Be sure to read each question carefully. Write the letter of the **best** answer in the blank in front of each question. Each multiple choice is worth 1 mark.

- B** 1. Substitute the x with the integer that will make the statement below a true statement.

$$p^x p^2 = p^{-8}$$

- A. 4
- B. -10
- C. 6
- D. 8

- D** 2. Simplify $(x^3)(y^2)(x^5)(z^2)$.

- A. $(x^3)(y^2)(x^5)(z^2)$
- B. $(x^2)(y^2)(z^2)$
- C. $(xyz)^{12}$
- D. $(x^8)(y^2)(z^2)$

- B** 3. Simplify the expression below.

$$10^3 \times 10^7$$

- A. 10^4
- B. 10^{10}
- C. 10^{21}
- D. 100^{21}

- A** 4. Which of the following decimal numerals is equivalent to $\frac{5}{8}$.

- A. 0.625
- B. 0.58
- C. 58
- D. 62.5

- B** 5. The quotient of $\frac{7^{10}}{7^2}$ is:
- A. 7^{12}
 - B. 7^8
 - C. 7^{20}
 - D. 7^5
- D** 6. The simplified answer to $(-2 \times 3^5)^3$ is:
- A. -6×3^8
 - B. 6×3^8
 - C. 8×3^{15}
 - D. -8×3^{15}
- C** 7. Which fraction is between -0.34 and -0.36 ?
- A. $\frac{-17}{50}$
 - B. $\frac{-9}{25}$
 - C. $\frac{-7}{20}$
 - D. $\frac{35}{100}$
- B** 8. Which is the best estimate for $\sqrt{1.6}$?
- A. 2.6
 - B. 1.3
 - C. 0.8
 - D. 0.4
- C** 9. Which rational number is a non-perfect square?
- A. $\frac{1}{25}$
 - B. 0.16
 - C. 0.9
 - D. $\frac{121}{4}$

B 10. Which represents the numbers in correct ascending order?

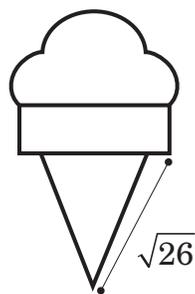
- A. $0.41, -0.33, 0.95, \frac{35}{50}, 2\frac{1}{2}, -1.2$
- B. $-1.2, -\frac{35}{50}, -0.33, 0.41, 0.95, 2\frac{1}{2}$
- C. $-2\frac{1}{2}, 0.95, 0.41, -0.33, -\frac{35}{50}, -1.2$
- D. $-\frac{35}{50}, -0.33, -1.2, 0.41, 0.95, 2\frac{1}{2}$

D 11. Which operation should you do first in the following expression?

$$-2.3 + [1.5 - (-4.3)] \div (-0.4)$$

- A. Divide -4.3 by -0.4
- B. Add -2.3 to 1.5
- C. Multiply 1.5 by -4.3
- D. Subtract -4.3 from 1.5

D 12. Use the picture of the ice cream cone to answer the question below.



- A. F
- B. E
- C. H
- D. G

Part 2: Short Answer

Show all your work. Simplify the answer to lowest terms when necessary.

1. Write $\frac{(3)^5}{(3)^3}$ in expanded notation, and find the value. (2 marks)

$$= 3^2 = 3 \times 3 = 9$$

or

$$\frac{3 \times 3 \times 3 \times 3 \times 3}{3 \times 3 \times 3}$$
$$= 3 \times 3 = 9$$

2. Place these rational and decimal numerals in order from least to greatest. (2 marks)

$$\frac{2}{5} \quad -0.39 \quad \frac{3}{7} \quad -\frac{3}{8} \quad -\frac{2}{5}$$

$$-\frac{2}{5}, -0.39, -\frac{3}{8}, \frac{2}{5}, \frac{3}{5}$$

3. Divide the power, and show your work. (2 marks)

$$\frac{(-3)^{10}}{(-3)^6}$$

$$= (-3)^4 = -3 \times -3 \times -3 \times -3 = 81$$

or

$$= \frac{-3 \times -3 \times -3}{-3 \times -3 \times -3 \times -3 \times -3 \times -3}$$

$$= -3 \times -3 \times -3 = 81$$

4. Identify the error(s) made, and then simplify the question correctly. (3 marks)

$$\begin{aligned} & (-2 \times 5^3)^4 \\ & = 8 \times 5^7 \end{aligned}$$

Two mistakes

$(-2)^4$ is 16, not 8

*The exponents should be multiplied, not added $3 \times 4 = 12$
Simplified the expression is: 16×5^{12}*

5. Insert the symbol $<$, $>$, or $=$ to make the following true. (2 marks)

a. $-\frac{5}{7} < -0.38$

b. $2.753 > \frac{24}{10}$

6. Identify a fraction and a decimal between -0.2 and -0.3 . (2 marks)

Possible decimals include: $-0.21, -0.22, -0.23, -0.24 \dots -0.29$

Possible fractions include: $-\frac{1}{4}, -\frac{21}{30}, -\frac{22}{30}, -\frac{11}{15}, -\frac{23}{30} \dots -\frac{29}{30}$

7. Answer the following: (2 marks)

a. What is the number with a square root of 6.1? **37.21**

b. What is the value for $\sqrt{0.1369}$? **0.37**

