Math Whiz Unit 3 Mastery

Name: _____   Class Period: 1 2 3 4   Date: _____

Exponents, Order of Operations and Evaluating Expressions

Exponents, Order of Operations, & Evaluating Expressions

1) Which shows 8 • 8 • 8 in **exponential form**?

   A) 3^8 B) 8^3 C) 512   D) 3 • 8

2) Find the value of 3^4.

   A) 12   B) 34   C) 64   D) 81

3) What is the value of 17^0?

   A) 0   B) 1   C) 17   D) cannot be determined

4) Evaluate: $\frac{(1+2)^3 - 12}{5}$

   A) 0.6   B) 3   C) 4   D) 5

5) *Evaluate*: $5^2 - (2 \times 8) + 9$

   A) 0   B) 3   C) 17   D) 18

6) Evaluate: $5m^2 \div (2m)$ for m = 4

   A) 5   B) 10   C) 18   D) 50

7) Evaluate $c^2 - 2b$ if b = 12 and c = 7

   A) 10   B) 25   C) 37   D) 198

Translating Words to Expressions

8) Which phrase is **NOT** the same as **2x + 5**?

   A) The sum of 5 and twice a number

   B) 5 more than the product of 2 and x

   C) 5 added to 2 groups of x

   D) Twice the sum of x and 5

9) Which algebraic expression represents how much prize money was won: "$20 less than last year's prize."

   A) p – 20   B) 20 – p   C) 20p   D) 20 < p

10) Mila's dog weighs 4 pounds more than the weight of Keiko's dog. Which expression could be used to find the weight of Mila's dog?

   A) k + 4   B) 4k   C) $4 \div k$ D) 4 – k

Identifying Parts of Expressions

11) Choose ALL of the **coefficients** in the expression. $5x^3 - 2x^3 + 6x - 4$

   A) 2   B) 3   C) 4   D) 5   E) 6

12) Which part of the expression $9^3 - (4 + 3)$ represents a sum?

   A) 9^3 B) $9^3 - 7$ C) 722   D) (4 + 3)

Equivalent Expressions

13) Simplify the expression: $8x + x^2 + 9x^2 + 5x$

   A) $23x^2$ B) $10x^2 + 13x$ C) $18x^2 + 5x$ D) $10x^4 + 13x$

14) Use the **distributive property** to find an equivalent expression for 3(2 + x).

   A) 6 + x   B) 9x   C) 6x   D) 6 + 3x

15) Use the **distributive property** to find an equivalent expression for 5(2x – 1).

   A) 10x – 5   B) 10x – 1   C) 5x   D) 10x + 5

16) Choose ALL expressions that are equivalent to 3x + 6 + x.

   A) 4x + 6   B) 2x + 4x + 3   C) 10x   D) 4(x + 6)   E) 2(2x + 3)

17) Which expression is equivalent to 2 + 3n + 2 + 9n?

   A) 16n   B) 3n + 8   C) 4(3n + 1)   D) 4(3n + 4)

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Math Whiz Unit 4 Mastery

Name: _____   Class Period: 1   2   3   4   Date: _____

Equations and Inequalities

One-Step Equations

1) Solve the following equation: $a - 32 = 47$

    A) 15   B) 77   C) 79   D) 81

2) *Solve for c.* $\frac{c}{5} = 65$

    A) 13   B) 60   C) 325   D) 335

3) Solve for r: $1.2r = 24$

    A) 2   B) 12   C) 20   D) 200

4) Franklin paid $152 for 8 DVDs. Each DVD was the same price. Which shows the equation that represents the situation and price of each DVD?

    A) $\frac{d}{8} = 152$; $1,216 per DVD   B) $d - 8 = 152$; $160 per DVD

    C) d + 8 = 152; $144 per DVD   D) 8d = 152; $19 per DVD

5) Gavin worked 16 hours last week and earned $192. The equation 16d = 192 can be used to find d, the number of dollars earned per hour. What is Gavin's hourly wage?
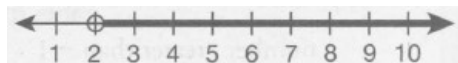
    A) $10.20   B) $11.50   C) $12.00   D) $14.75

Inequalities

6) Which inequality is shown on the number line?
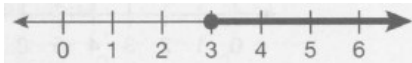
    A) x > 3   B) x ≥ 3   C) x < 3   D) x ≤ 3

7) Which inequality is shown on the number line?

    A) x > 2   B) x ≥ 2   C) x < 2   D) x ≤ 2

8) When the temperature drops below 15 degrees Celsius in a building, the furnace turns on. Which inequality statement represents the temperatures the furnace turns on?

    A) t < 15   B) t > 15   C) t ≠ 15   D) t ≥ 15

9) Cooper spent at least $25 at a music concert. Which inequality represents the amount of money Cooper spent?

    A) c > 25   B) c ≥ 25   C) c < 25   D) c ≤ 25

10) Which of the following values is **NOT** a solution of $x - 4 < 15$?

    A) 0   B) 15   C) 18   D) 19

Relationship Between Independent & Dependent Variables

11) The table below shows song downloads and total cost.

Songs (x)	3	5	8	10
Total Cost (y)	$4.50	$7.50	$12.00	$15.00

Which equation represents the relationship between the total cost (y) and songs downloaded (x)?

    A) y = 1.5x   B) y = x + 1.5   C) x = 1.5y   D) y = 2.5x

12) Which ordered pair is a solution to the equation $y = 3x + 4$?

    A) (0, 0)   B) (5, 3)   C) (2, 10)   D) (15, 39)

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