

Algebra Skills (Day 1)

Order of Operations:

When simplifying or evaluating an expression, proceed in this order:

- 1) Parenthesis are done first
- 2) Exponents are done next
- 3) Multiplying & Dividing are done as they occur left to right
- 4) Adding & Subtracting are done as they occur left to right

★ When there are 2 or more parenthesis or grouping symbols → Perform the *inner* most one first!

Solve the following using the Order of Operations. Circle answers please!

1) $5 + 8 \cdot 2 - 4$

$$5 + 16 - 4$$

$$21 - 4$$

$$\boxed{17}$$

2) $\frac{20+4}{4+3^2-1} = \frac{24}{12} = \boxed{2}$

$$4+9-1$$

$$3) \frac{1}{4}(8 \cdot 3) + 7$$

$$\frac{1}{4}(24) + 7$$

$$6 + 7$$

$$\boxed{13}$$

$$4) 11 - 24(8 - 5) \div 2^2$$

$$11 - 24(3) \div 2^2$$

$$11 - 24(3) \div 4$$

$$11 - 72 \div 4$$

$$11 - 18$$

$$\boxed{-7}$$

$$5) -3^2 + 4[16 \div (-7 + 5)]$$

$$(-3)^2 = 9$$

$$-3^2 = -9$$

$$-3^2 + 4[16 \div -2]$$

$$-3^2 + 4 \cdot (-8)$$

$$-9 + 4 \cdot -8$$

$$-9 + -32 \quad | \quad -9 - 32$$

$$\boxed{-41}$$

$$\boxed{-41}$$

$$6) 6 \div [4 - (6 \div 8)] + 3^3$$

$$6 \div 6 + 3^3$$

$$1 + 3^3$$

$$1 + 27$$

$$\boxed{28}$$

Mn, Blo
G

Evaluating Expressions:

7) $2x^2 + 6$; when $x=4$

$$2(4)^2 + 6$$

$$2 \cdot 16 + 6$$

$$32 + 6$$

$$\boxed{38}$$

8) $2x^3 + 5$; when $x=10$

$$2(10)^3 + 5$$

$$2 \cdot 1000 + 5$$

$$2000 + 5$$

$$\boxed{2005}$$

9) $\frac{x}{3} - 12y$; when $x=15$ and $y=-3$

$$\frac{15}{3} - 12(-3)$$

$$5 + 36$$

$$\boxed{41}$$

10) $\frac{xy-2z}{-(-x)}$; when $x=-4$, $y=5$, and $z=-2$

$$\frac{-4 \cdot 5 - 2 \cdot -2}{-(-(-4))}$$

$$-(+4)$$

$$\frac{-20 + 4}{-4} = \frac{-16}{-4}$$

$$\boxed{=4}$$

Combining Like Terms and Distributing

11) $-12x + 7x$

$$-5x$$

12) $-5n + 3(6 + 7n)$

$$-5n + 18 + 21n$$

$$16n + 18$$

13) $-9(6m - 3) + 6(1 + 4m)$

$$\cancel{-54m} + 27 + 6 + \cancel{24m}$$

$$\boxed{-30m + 33}$$

$$14) -3(10b + 10) + 5b(b + 2)$$

$$\cancel{-30b} - 30 + \cancel{5b^2} + \cancel{10b}$$

$$\boxed{5b^2 - 20b - 30}$$

$$15) 2x + 3(4x + 5y) + 9y$$

$$\cancel{-8x^2} - 8x - \cancel{3x^2} + 4$$

$$\boxed{-11x^2 - 8x + 4}$$

$$16) -8x(x + 1) - 3x^2 + 4$$

$$15) 2x + 12x + 15y + 9y$$

$$\boxed{14x + 24y}$$

Review Packet

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1-36 odd

ALGEBRA 1
Unit 0

Name _____

Algebra Skills (Day 2)

Solving Linear Equations

- To solve a linear equation, you must “undo” the operation that is being done to the variable
- Goal→ _____
- Keep the equation balanced! This means.. _____
- Check by _____

1) $-4x = 16$

2) $6x - 9 = 35 + 2x$

3) $-2(2x + 9) = -54$

$$4) \frac{5}{4}x - 7 = 3$$

$$5) 5x - 2(3 - x) = -(4 - x)$$

$$6) -3(5 - 4x) = 12x$$

Mathematical Formulas

- Solve for the indicated variable

7) $A = \frac{1}{2}bh$ Solve for h.

8) $C = 2\pi r$ Solve for r.

Linear Inequalities

- When solving linear inequalities, solve like an equation but...

★ When _____ or _____ by a _____, you MUST

_____.

- When graphing, an *open* dot is used for _____.

a *closed* dot is used for _____.



9) $11y - 9 > 13$



10) $2x - 9 \leq 6x - 1$



