

Name Answer Key

Date \_\_\_\_\_

## Lesson #29 - Simplifying Expressions with Subtraction

**Do Now:** Simplify the following expressions

1)  $(2a + 5b) - (4a + 3b)$

$-2a + 8b$

2)  $(-10x) + 5y - 9x$

$-19x + 5y$

3)  $3x^2 + x^2$

$4x^2$

4)  $5(3x^2 + 2x - 6)$

$15x^2 + 10x - 30$

5)  $-(2x + 8)$

$-2x - 8$

6)  $6x + 3(2x - 5) - 2x$

$(6x + 6x) - 15 - 2x$

$10x - 15$

**Directions:** Simplify the following expressions

7)  $(4x^2 - 3x + 2) + (5x - x^2 - 1)$

$3x^2 + 2x + 1$

8) Find the measure of the perimeter of a triangle whose sides measure  $3x + 5$ ,  $2x + 9$ , and  $5x + y$ .

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

$10x + y + 14$

9)  $(3x^2 - x - 2) - (x^2 + 2x - 1)$

$(3x^2 - x - 2) - (x^2 + 2x - 1)$

$2x^2 - 3x - 1$

10)  $x - (3x - 4)$

$x - 3x + 4$

$-2x + 4$

11)  $2x - 7x$

$-5x$

12)  $(5a + 3) - (5a - 3)$

$(5a + 3) - (5a - 3)$

$6$

$$13) 2x - (3x + 5)$$

$$2x - 3x - 5$$

$$-x - 5$$

$$14) \text{ Subtract } 4x + 6 \text{ and } 2x + 9$$

$$(4x + 6) - (2x + 9)$$

$$4x + 6 - 2x - 9$$

$$2x - 3$$

$$15) (4x - 3) - (7x - 8)$$

$$4x - 3 - 7x + 8$$

$$-3x + 5$$

$$16) 9x - (11x + 6)$$

$$9x - 11x - 6$$

$$-2x - 6$$

$$17) (p^2 + 8p + 3) - (p^3 - 4)$$

$$p^2 + 8p + 3 - p^3 + 4$$

$$-p^3 + p^2 + 8p + 7$$

$$18) (2w^3 + 4w^2 + 8w) + (3w^2 + 9w - 27)$$

$$2w^3 + 7w^2 + 17w - 27$$

$$19) (-v^2 + 8v + 1) - (5v^2 + v + 1)$$

$$-v^2 + 8v + 1 - 5v^2 - v - 1$$

$$-6v^2 + 7v$$

$$20) (p^4 + 2p^2 + 3) - (p^3 + p^2 + 1)$$

$$p^4 + 2p^2 + 3 - p^3 - p^2 - 1$$

$$p^4 - p^3 + p^2 + 2$$

$$21) (6x^3 - x^2 + 4) - (3x^2 - 2x + 3)$$

$$6x^3 - x^2 + 4 - 3x^2 + 2x - 3$$

$$6x^3 - 4x^2 + 2x + 1$$

$$22) (5b^2 + 3b - 2) - (-2b^2 - 4b)$$

$$5b^2 + 3b - 2 + 2b^2 + 4b$$

$$7b^2 + 7b - 2$$

**Directions:** Translate the following sentences into mathematical statements.

23) Twice the difference of a number and seven.  $2(x - 7)$

24) Six subtracted from a number.  $x - 6$

25) Five times a number increased by seven.  $5x + 7$