

Name Answer Key

Date \_\_\_\_\_

## Lesson #5 – Subtracting Integers Using Patterns

**Do Now:**

Solve the following problems using the order of operations.

1) $54 \div (6 + 3)$ $54 \div 9$ $6$	2) $18 + 2(4 - 1)$ $18 + 2(3)$ $18 + 6$ $24$	3) $48 \div (6 + 2) \cdot 5$ $48 \div (8) \cdot 5$ $6 \cdot 5$ $30$
--	---	--

**Directions:** Complete the following table. Observe a pattern forming and use that pattern to complete the entire table.

Subtraction Problem	Difference	Addition Problem
$3 - 3$	0	$3 + (-3)$
$3 - 2$	1	$3 + (-2)$
$3 - 1$	2	$3 + (-1)$
$3 - 0$	3	$3 + (0)$
$3 - (-1)$	4	$3 + (1)$
$3 - (-2)$	5	$3 + (2)$
$3 - (-3)$	6	$3 + (3)$

Rule for Subtraction of Integers: Add the opposite. Follow  
rules for addition.

**Directions:** Rewrite each subtraction problem as an addition problem. Then solve the addition problem and circle your answer.

1)  $9 - 12$   
 $9 + (-12)$   
 $-3$

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

3)  $-6 - 8$   
 $-6 + (-8)$   
 $-14$

4)  $-7 - 5$   
 $-7 + (-5)$   
 $-12$

5)  $3 - 8$   
 $3 + (-8)$   
 $-5$

6)  $-5 - 4$   
 $-5 + (-4)$   
 $-9$

7)  $10 - 7$   
 $10 + (-7)$   
 $3$

8)  $-12 - 9$   
 $-12 + (-9)$   
 $-21$

9)  $7 - (-15)$   
 $7 + 15$   
 $22$

10)  $11 - (-8)$   
 $11 + 8$   
 $19$

11)  $-30 - (-20)$   
 $-30 + 20$   
 $-10$

12)  $-6 - (-9)$   
 $-6 + 9$   
 $3$

13)  $6 - (-7)$   
 $6 + 7$   
 $13$

14)  $-5 - (-19)$   
 $-5 + 19$   
 $14$

15)  $-14 - (-2)$   
 $-14 + 2$   
 $-12$

16)  $-1 - (-1)$   
 $-1 + 1$   
 $0$

**Directions:** Evaluate each expression if  $a = 9$ ,  $b = -8$ , and  $c = -2$ .

17)  $14 - b$   
 $14 - (-8)$   
 $14 + 8$   
 $22$

18)  $c - a$   
 $-2 - 9$   
 $-2 + (-9)$   
 $-11$

19)  $a + |b - c|$   
 $9 + |-8 - (-2)|$   
 $9 + |-8 + 2|$   
 $9 + |-6|$   
 $9 + 6$   
 $15$

**Directions:** Evaluate each expression if  $x = -5$  and  $y = 7$ .

20)  $x - (-8)$   
 $-5 - (-8)$   
 $-5 + 8$   
 $3$

21)  $-3 - y$   
 $-3 - 7$   
 $-3 + (-7)$   
 $-10$

22)  $y - x - 3$   
 $7 - (-5) - 3$   
 $7 + 5 - 3$   
 $12 - 3$   
 $9$