Unit 2: Integers

Name: Key

Pre-Algebra: Practice Test

Hour: _____

2.1: I can classify numbers. Classify each number as a real, rational, irrational, integer, whole and/or counting number. Check all boxes that apply to each number.

	Real	Rational	Irrational	Integer	Whole	Counting
1. −789.6754	X	X				
2. −34	X	X		X		
3. 43.5454545…	X	X				
4. $\frac{-20}{5}$	X	X		X		
5. .765894035…	X		X			
6. $\frac{36}{\sqrt{36}}$	X	X		X	X	X

2.1 I can state the opposite of a number. State the opposite of the number.

7. -9 → 9

8. 0 → 0

9. 54 → -54

10. -8.35 → 8.35

11. Find –a(-b) when a = 2 and b = -4

$-2(--4)$

$-2(4) = -8$

12. Find –(-(-(-x))) when x = -2

$----2 = -2$

2.1 I can define what is means to be an integer. Use an integer to represent each situation described.

13. 10 degrees below zero. → -10

14. A deposit of $45 → +45

15. 36 feet above sea level → +36

16. A decrease of 17 → -17

Score: _____%

1.2: I can find the absolute value of a number.
I can evaluate expressions with absolute value.

1. $-|-17|$

-17

2. $|3| + |5 - 9|$

7

3. $|4|$

4

4. $|10 + (-2)| - |-3|$

5

5. $15 - |-6|$

15 - 6

9

6. $|x| - x$ *when* $x = 2$

|2| - 2

2 - 2

0

Compare the values using $<, >, =$.

7. $|m|$ ___ $-(-m)$ *when* $m = -3$

3 ___ -3

8. $|-3|$ ___ $|-2|$

3 ___ 2

9. $|-16 - 4|$ ___ $|21|$

20 ___ 21

10. $|5|$ ___ $|10 - 15|$

5 ___ 5

Score:_____

2.3 I can add integers.	
1. $15 + 24$ 39	2. $-13 + (-35)$ -48
3. $29 + (-29)$ 0	4. $-10 + 2$ -8
5. $-14 + (-11)$ -25	6. $-9 + -9$ -18
7. $-25 + 17 + 6$ -2	8. $-4 + (-8) + (-6)$ -18
9. $9 + (-6)$ 3	10. $12 + (-10) + 16$ 18
	Score:_____

2.4 I can subtract integers.	
1. $8 - 13$ -5	2. $18 - (-11)$ 29
3. $-14 - 15$ -29	4. $-8 - 6$ -14
5. $0 - (-4) - 8$ -4	6. $14 - (-10)$ 24
7. $-9 - (-4) - 2$ -7	8. $3 - (-8)$ 11
9. $7 - 11$ -4	10. $-3 - (-3)$ 0
	Score:_____

2.5 I can calculate the change that occurs between two values.	
1. From – 14 degrees to 16 degrees. +30	2. $-33\ feet\ to\ -100\ feet$ -67
3. From 18 degrees to -2 degrees. -20	4. From 8 meters above sea level to 16 meters below sea level. -24
5. From \$40 to \$16. -24	6. From -\$3 to \$18. +21
7. From 45 to 62 +17	8. From -6 to -22. -16
	Score:_____

2.6 I can multiply and divide integers.	
1. $-8 * 2$ -16	2. $-15 \div 3$ -5
3. $-4 * -4$ 16	4. $24 \div (-4)$ -6
5. $5 * -6$ -30	6. $-36 \div -6$ 6
7. $5 * 0$ 0	8. $25 \div 5$ 5
9. $-7 * (-7)$ 49	10. $-9 \div -3$ 3
	Score:_____

2.7 I can find the square root of a number. * Always reduce fractions.

1. $-\sqrt{9}$

-3

2. $\sqrt{36}$

6

3. $\sqrt{64}$

8

4. $-\sqrt{\frac{100}{121}}$

$-\frac{10}{11}$

5. $\sqrt{16}$

4

6. $\sqrt{144}$

12

Approximate each square root. Answers Are approximate

7. $\sqrt{71}$

$\sqrt{64}$ $\sqrt{81}$

between 8 and 9

≈ 8.5

8. $\sqrt{60}$

$\sqrt{49}$ $\sqrt{64}$

between 7 and 8

≈ 7.7

9. $-\sqrt{101}$

$-\sqrt{100}$ $-\sqrt{121}$

between -10 and -11

≈ -10.1

10. $\sqrt{2}$

$\sqrt{1}$ $\sqrt{4}$

between 1 and 2

≈ 1.5

11. $\sqrt{19}$

$\sqrt{16}$ $\sqrt{25}$

4 and 5

≈ 4.4

12. $-\sqrt{26}$

$-\sqrt{25}$ $-\sqrt{36}$

between -5 and -6

≈ -5.1

Score:_____

*Show every step!

2.8 I can use Order of Operations with Integers

1. $(-3)^2 \cdot (5-7)^2 - (-9) \div 3$

$9 \cdot (-2)^2 - -3$

$9 \cdot 4 + 3$

$36 + 3$

39

2. $20 - 2 \cdot 7 + 1 - (-3) + 10$

$20 - 14 + 1 + 3 + 10$

20

3. $|4-8| + 2^3 - \left(\frac{-16}{8}\right)$

$4 + 8 - -2$

$4 + 8 + 2$

14

4. $10 \div 5 - (-2)^2$

$10 \div 5 - 4$

$2 - 4$

-2

5. $-ab + \frac{c}{b}$ *when* $a = -1, b = 4, c = -8$

$-(-1)(4) + \frac{-8}{4}$

$4 + (-2)$

2

6. $\frac{3x-z}{-w}$ when $w = -1, x = 6, z = -2$

$\frac{3(6) - (-2)}{-(-1)}$

$\frac{18+2}{1} = 20$

7. $-7^2 - 1 + (3 - \frac{-18}{2} + 3)$

$-49 - 1 + (3 - (-9) + 3)$

$-49 - 1 + 15$

-35

8. $-5 - 4 + 6 \div 3 - 24 \div 8 + -2 - 6$

$-5 - 4 + 2 - 3 - 2 - 6$

-18

Score: _____