

# KEY

## Math 6+/7+ Unit 1 Study Guide

You must show all of your work in your notebook!

1. Explain why  $|9|$  and  $|-9|$  are equal. *They are both the same distance from zero.*
2. What is an additive inverse? Give an example. *2 integers whose sum is 0*  
*ex -3 and 3*
3. Use any strategy to model:  $9 + (-7)$  *~~9 + (-7) = 2~~*
4. Use any strategy to model:  $-5 + 7$  *~~-5 + 7 = 2~~*

Evaluate

5.  $19 + (-9) + 45 + (-32)$  *(23)*

8.  $-22 - 8$  *(-30)*

6.  $450 + (-350)$  *(100)*

9.  $0 + (-15) - 1 =$  *(-16)*  
*-15 - 1*

7.  $22 - (-7)$  *(29)*

10. The product of one negative and one positive is? *negative*

11. The product of two negatives is? *positive*

12. The product of three negatives is? *negative*

13. Zach solved the following problem. Is he correct? If not, explain his mistake.

$(-8)(8)=64$  *NO It is -64*

14. Max's golf scores are -4, 5, -1, and 6. Order them from least to greatest.

*-4, -1, 5, 6*

15. During a game, the Mills Park Football Team gained 5 yards, lost 10 yards, gained 17 yards, gained 2 yards, lost 15 yards, and finally gained 10 yards. What was the net change?

$$\begin{aligned}
 &5 - 10 + 17 + 2 - 15 + 10 = \textcircled{9} \\
 &-5 + 17 + 2 - 15 + 10 \\
 &12 + 2 - 15 + 10 \\
 &14 - 15 + 10 \\
 &-1 + 10
 \end{aligned}$$

16. An airplane takes off, climbs 3,000 feet, and then descends 600 feet. What is the airplane's current height?  $3000 - 600 = 2400 \text{ ft.}$

17.  $[3^2 * (4 + 6)] - 7$

$[9 * 10] - 7$  (83)  
 $90 - 7$

18.  $(10 - 8) * (-4) \div 2 * 4$

$2 * (-4) \div 2 * 4$   
 $-8 \div 2 * 4$   
 $-4 * 4 = -16$

19.  $1 - 10(-10 + 9)^4$

$1 - 10(-1)^4$   
 $1 - 10(1)$   $1 - 10 = -9$

20.  $-2(-9 + (-9) + 2^2)$

$-2(-9 + -9 + 4)$   
 $-2(-18 + 4) = -2(-14) = 28$

21.  $\frac{8}{-2 + 4 + 8 + (-4) + (-6)}$

$\frac{8}{-6 + 8 + (-4) + (-6)} = \frac{8}{-2 + -4 + -6} = \frac{8}{-2 + -6} = \frac{8}{-8} = -1$

22.  $\frac{(-1)^2 - 2^2}{(-1)^4} = \frac{1 - 4}{1} = \frac{-3}{1} = -3$

23)  $-|-4|$   
 $-4$

24)  $|8 - 32| \div |2|$   
 $24 \div 2$   
 $12$

25)  $| -5 \cdot 4 | \cdot -|5 - 2|$   
 $20 \cdot -3$   
 $-60$