Review for Test 1 ANSWER KEY

Name __Key__   Math 7   Date _____

Review for Test #1

1. State which property of real numbers is illustrated by each of the following:

a) $8 \times 0 = 0$
b) $5 + (6 + 1) = (5 + 6) + 1$
c) $9(1) = 9$
d) $3 \cdot 4 = 4 \cdot 3$
e) $7(6 + 2) = 7(6) + 7(2)$
f) $3 + 0 = 3$
g) $13 + (-13) = 0$
h) $5 \cdot 1 = 5$
i) $4 + 9 = 9 + 4$
j) $6 \cdot \dfrac{1}{6} = 1$
k) $2 + (5 + 6) = (5 + 6) + 2$
l) $-\dfrac{2}{3} + \dfrac{2}{3} = 0$
m) $22 = 1(22)$
n) $x(y + z) = xy + xz$

a) __Zero Property of Multiplication__
b) __Associative Property__
c) __Multiplicative Identity__
d) __Commutative Property__
e) __Distributive Property__
f) __Additive Identity__
g) __Additive Inverse__
h) __Multiplicative Identity__
i) __Commutative Property__
j) __Multiplicative Inverse__
k) __Commutative Property__
l) __Additive Inverse__
m) __Multiplicative Identity__
m) __Distributive Property__

2. State the additive inverse of each of the following:

a) 3 __-3__   b) -4 __4__   c) $\dfrac{3}{5}$ __$-\dfrac{3}{5}$__   d) $-\dfrac{1}{2}$ __$\dfrac{1}{2}$__

3. State the multiplicative inverse of each of the following:

a) 3 __$\dfrac{1}{3}$__   b) -4 __$-\dfrac{1}{4}$__   c) $\dfrac{3}{5}$ __$\dfrac{5}{3}$__   d) $-\dfrac{1}{2}$ __-2__

4. *Complete the equation using the given property:*

a) Associative property $(5 + 2) + 8 =$ __$5 + (2 + 8)$__

b) Zero property of multiplication $4 \cdot$ __0__ $=$ __0__

c) Additive identity $7 +$ __0__ $=$ __7__

d) Multiplicative identity $-3 \cdot$ __1__ $=$ __-3__

f) Additive inverse: $\dfrac{3}{8} +$ __$-\dfrac{3}{8}$__ $=$ __0__

g) Multiplicative inverse: $3 \cdot$ __$\dfrac{1}{3}$__ $=$ __1__

i) Commutative property $x + yz =$ __$yz + x$__

j) distributive property: $3a + 3b =$ __$3(a+b)$__

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5. $-7 + 4 =$ __−3__

6. $-3 - (-9) =$ __6__

7. $|-6| =$ __6__

8. $-21 \div -3 =$ __7__

9. $-5 + -3 =$ __−8__

10. $(-2)(-8) =$ __16__

11. $30 \div -6 =$ __−5__

12. $7 - 10 =$ __−3__

13. $-8 - 3 + -1 =$ __−12__

14. $(4)(-6)(0)(-4) =$ __0__

15. $-8 - 8 =$ __−16__

16. $-4 + 4 =$ __0__

17. $(-2)(3) =$ __−6__
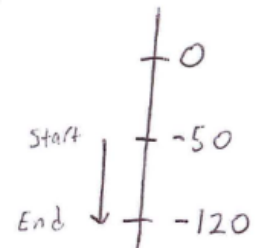
18. $-4(2 - 7) =$ __20__
    $-4(-5)$

19. $|-4| + |4| =$ __8__
    $4 \quad 4$

20. $(-2)(-4)(-1)(-1)(-1) =$ __−8__

21. A coral reef has an elevation of –50 feet below the surface of the ocean. After an earthquake, the elevation of the reef became –120 feet below the surface of the ocean. What was the change in elevation?
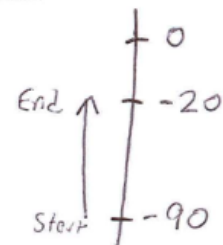
$-120 - -50 = \boxed{-70 \text{ feet}}$
↑ End   ↑ start

to 0
Start ⊢ -50
End ↓ -120

22. An underwater shipwreck was located –90 feet below the surface of the ocean. After an earthquake, the shipwreck moved to –20 feet below the surface of the ocean. What was the change in elevation?

$-20 - -90 = \boxed{70 \text{ feet}}$
↑ End   ↑ start

to 0
End ↑ -20
Start ⊢ -90

23. George was scuba diving 20 meters below the surface of the water. He saw a shark 5 meters above him. What was the location of the shark?

Fill in the blank with the correct sign (>, <, =):

24. -8 __>__ -9

25. $|7|$ __=__ $|-7|$

26. 0 __>__ -50

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27) $(-12) \div (4)(-5)$

$$-3(-5)$$

$$\boxed{15}$$

28) $5 - 3(4) + 2 - 3^2$

$$5 - 12 + 2 - 9$$

$$-7 + 2 - 9$$

$$-5 - 9$$

$$\boxed{-14}$$

29) $(4-7)^2 - 8(2)$

$$(-3)^2 - 8(2)$$

$$9 - 16$$

$$\boxed{-7}$$

30) $30 + (-6)(2) \div (-3) - 8$

$$30 + -12 \div (-3) - 8$$

$$30 + 4 - 8$$

$$34 - 8$$

$$\boxed{26}$$

31) $\dfrac{14 - (-2 \cdot -3)}{4^2 - 2(4)} = \dfrac{14 - 6}{16 - 8}$

$$= \frac{8}{8}$$

$$= \boxed{1}$$

32) $(3+2)^2 - 5 \cdot 3 + (-2)^2$

$$(5)^2 - 5 \cdot 3 + 4$$

$$25 - 5 \cdot 3 + 4$$

$$25 - 15 + 4$$

$$10 + 4$$

$$\boxed{14}$$

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Find the numerical value of the given expression when w = 4, x = -3, y = -5 and z = 2.

33) $\frac{w-y}{x}$

$$\frac{4-(-5)}{-3} = \frac{9}{-3}$$

$$= \boxed{-3}$$

34) $x^2 + 4x + 7$

$(-3)^2 + 4(-3) + 7$

$9 + -12 + 7$

$-3 + 7$

$\boxed{4}$

35) $|x| - |y| + |z|$

$|-3| - |-5| + |2|$

$3 - 5 + 2$

$-2 + 2$

$\boxed{0}$

36) $wx + 2yz$

$(4)(-3) + 2(-5)(2)$

$-12 + -20$

$\boxed{-32}$

37) $y - x - 3w$

$(-5) - (-3) - 3(4)$

$-2 - 12$

$\boxed{-14}$

38) $y^2 - z^2$

$(-5)^2 - (2)^2$

$25 - 4$

$\boxed{21}$

39) Timmy was given the problem: "Evaluate $\frac{8+4}{2+1}$." Timmy wrote the answer was 11. Was Timmy correct? Explain your answer.

No

$$\frac{(8+4)}{(2+1)} = \frac{12}{3} = \boxed{4}$$

40) Darrian attempted to evaluate the expression: $24 \div 8(3)$. Her solution is below. Is she correct? Why?

$24 \div 24$

1

The correct answer is 9.

$24 \div 8(3)$

$\downarrow$

$3(3)$

$\boxed{9}$