Math 7 Practice Quiz (Sections 5.1 - 5.5)

Name Key

Block _____ Date _____

1) The fact that $6n + -1 = 6n - 1$ is based on the defintion of subtraction.

2) The property that allows you to change the order is called the commutative property.
This property is always true for which two operations: addition and multiplication

3) The property that allows you to change the grouping is called the associative property.
This property is always true for which two operations: addition and multiplication.

4) Which of these are equivalent? Circle them and show how you know.

-9x - 1 → $-9x + -1$

-9x + -1

1 - 9x → $1 + -9x$

-1 - 9x → $-1 + -9x$ → $-9x + -1$

-1 + -9x

5) $2(4x - 5) = 8x - 10$ is an example of the distributive property.
$2(4x + -5) = 2(4x) + 2(-5) = 8x + -10$

6) $(-2)(8)(24)(0)(-5)(-1) = 0$ is an example of the Multiplication Property of Zero

7) A) Find the next three terms in this sequence 4, 8, 12, 16, 20, 24, 28

B) State the rule for the sequence. Add 4 to previous term

8) The commutative propert of multiplication says that $(9)(-2) = -2(9)$

9) The identity property of multiplication says that $(18)(1) = 18$

10) If the pattern continues for this sequence 9, 18, 27, 36, 45, ...
A) find the 1000th term $9(1000) = 9000$

B) Find the n^{th} term $9n$

1st → 9
2nd → 18
3rd → 27
nth → 9n

Which property is represented by each of the following ? Use the letters from the properties at the right. Note: You may use a letter more than once or not at all.

17) J p + -4 = p - 4

18) D 8(0) = 0

19) A 8(2 + 9) = 8(2) + 8(9)

20) F 9(1) = 9

21) B -5 + 7 = 7 + -5

22) C 10 + 0 = 10

23) G (-5)(3) = (3)(-5)

24) E (12 + 4) + 3 = 12 + (4 + 3)

25) H (7 x 5) x 2 = 7 x (5 x 2)

26) B (x + 1) + 4 = 4 + (x + 1)

Properties

A Distributive
B Commutative (+)
C Additive Identity
D Multiplication Property of Zero
E Associative (+)
F Multiplicative Identity
G Commutative (x)
H Associative (x)
J Definition of Subtraction

11) Evaluate if $x = -4$ and $y = 3$
SHOW ALL STEPS

A) $5(x + y)$

$5(-4+3)$

$5(-1)$

-5

B) $7x - 2y$

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

$-28 + -2(3)$

$-28 + -6$

-34

C) $x + y^2$

$-4 + (3)^2$

$-4 + 9$

5

15) Evaluate $6 + -3(2 - 7)^2$

$6 + -3(2 + -7)^2$

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

$6 + -3(25)$

$6 + -75$

-69

12) Write the algebraic expression for each of the following. Let n = the number

A) the sum of a number and seven

$n + 7$

B) four less than a number

$n - 4$

C) six more than twice a number

$2n + 6$

D) the product of a number and two

$2n$

16) Solve this problem two different ways. Show how to use the order of operations agreement AND the distributive property.

<u>Order of Operations</u>

$-6(-9 + 2)$

$-6(-7)$

42

<u>Distributive Property</u>

$-6(-9 + 2)$

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

$54 + -12$

42

13) It costs $5 to rent bowling shoes and $3 for each game bowled.
Let g = the number of games bowled

Write an algebraic expression to represent the total cost to bowl

$5 + 3g$

14) Write an algebraic expression to represent the total miles Sara ran, if on Monday she ran m miles, on Tuesday she ran twice what she ran Monday, and on Wednesday she ran two more miles than she ran on Monday. Then simplify the expression.

Mon m

Tues $2m$

Wed $m+2$

Total

Mon + Tues + Wed

$m + 2m + m + 2$

$4m + 2$

Simplify using the distributive property. Show all steps as shown in class.

27) $-2(x - 7)$

$-2(x + -7)$

$-2(x) + -2(-7)$

$-2x + 14$

28) $-4x - y + 3y + x - 5y$

$-4x + -1y + 3y + 1x + -5y$

$-3x + -3y$

$-3x - 3y$

29) $4(-5x + 3) + 2(x + 4)$

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

$-20x + 12 + 2x + 8$

$-18x + 20$

30) $-5(-3x + 2)$

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

$15x + -10$

$15x - 10$

31) $7 - 8x + 4x - 10$

$7 + -8x + 4x + -10$

$-4x + -3$

$-4x - 3$

32) $-2(x + 5) + 4(x + 2)$

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

$-2x + -10 + 4x + 8$

$2x + -2$

$2x - 2$

33) In the algebraic expression 9ab - b + 2 - 8b + ab 9ab + -1b + 2 + -8b + 1ab

A) How many terms are there? 5

B) List the terms 9ab, -1b, 2, -8b, 1ab

C) List the like terms. 9ab and 1ab -1b and -8b

D) List the coefficients. 9 -1 -8 1

E) List the constants. 2

34) In the algebraic expression 7 - 9x + 2y - 10 7 + -9x + 2y + -10

A) How many terms are there? 4

B) List the terms. 7, -9x, 2y, -10

C) List the like terms. 7 and -10

D) List the constants. 7, -10

E) List the coefficients -9, 2