

Name _____ Period _____

/ = _____ % = _____

3-1 HW - Variables and Properties

Evaluate each expression if $a = -4$, $b = 2$, $x = 3$, and $y = -6$.

1. $y - a$

-2

2. $y - b$

3. $x^2 + y$

3

4. $a^2 + b$

5. ab

-8

6. $|ax|$

7. $|bx|$

6

8. xy^2

9. $|ab + y|$

14

10. $|ax - b|$

11. $bx - y$

12

12. $xy + ab$

13. $\frac{y}{b}$

-3

14. $\frac{y}{x}$

15. $\frac{a}{b} + y$

-8

16. $\frac{a+y}{b}$

17. $5a$

-20

18. $4b^3$

19. $\frac{(5+x)^2}{b}$

32

20. $6b - 3a$

Evaluate each expression if $a = 5$, $b = 3$, $x = -2$, and $y = 4$.

21. $7a$

35

22. $8b$

23. $2x + y$

0

24. $x^3 + y^2$

25. $a + 6b$

23

26. $5x - y$

27. $8b - 4a$

4

28. $ax^2 + b$

Write the definition of each property:

29) Commutative property

30) Associative Property

31) Identity Property

Add:

32) Multiplicative of Zero

Multiplying:

Name the property shown by each statement

33) $x \cdot 1 = x$

I.

39) $ab + 0 = ab$

34) $14xy = 14yx$

40) $(x \cdot y) \cdot z = x \cdot (y \cdot z)$

A

35) $(3 + 5) + c = 3 + (5 + c)$

A

41) $(7 \cdot 3) \cdot 5 = 7 \cdot (3 \cdot 5)$

36) $(3 \cdot 9) \cdot 1 = 3 \cdot 9$

42) $(2 + x) \cdot 0 = 0$

O.

37) $(a + b) + c = c + (a + b)$

C

43) $(8 + 5) + 3 = 3 + (8 + 5)$

38) $(x + y) \cdot 5 = (y + x) \cdot 5$

44) $(a + b) \cdot 1 = a + b$

I.

45) The sum of any number and zero is the original number.

For example $a + 0 = a$.

I+

46) When two numbers are multiplied together, the product is the same regardless of the order of the multiplicands. For example $a \times b = b \times a$

47) The product of any number and one is that number. For example $a \times 1 = a$.

I.

48) When three or more numbers are added, the sum is the same regardless of the grouping of the addends. For example $(a + b) + c = a + (b + c)$

49) When two numbers are added, the sum is the same regardless of the order of the addends.

For example $a + b = b + a$

C

50) When three or more numbers are multiplied, the product is the same regardless of the order of the multiplicands.

For example $(a \times b) \times c = a \times (b \times c)$

51) Multiplying any number by 0 yields 0. For example $a \times 0 = 0$.

.0

Common Core Review

52) A package of pencils cost \$1.25. A new eraser cost. \$0.45. Write an expression to find the total cost of 3 packages of pencils and 2 erasers.

53) Using your expression that you wrote in #52, what is the total cost?

Evaluate:

54) $1^0 = \underline{1}$

55) $3^3 = \underline{\hspace{2cm}}$

56) $10^4 = \underline{10,000}$

$1^0 =$

57) Jayden goes to the batting cage. He purchases three tokens and rents a helmet. If he spends a total of \$6.50, how much is each token?

\$1.50

Tokens	\$
Helmet Rental	\$2

