Algebra I Worksheet #4 Unit 1 page 1 _____

Match the property with its name.

___ 1. Commutative Law of Addition   A. $x + 0 = x$

___ 2. Associative Law of Addition   B. $x - y = x + -y$

___ 3. Identity Law of Addition   C. $x + y = y + x$

___ 4. Inverse Law of Addition   D. $(x + y) + z = x + (y + z)$

___ 5. Definition of Subtraction   E. $x + -x = 0$

Name the property that is illustrated in each of the following examples.

_____ 6. $3x - 5 = 3x + -5$

_____ 7. $(4x + 3y) + 7y = 4x + (3y + 7y)$

_____ 8. $3x + -3x = 0$

_____ 9. $4 + 7x = 7x + 4$

_____ 10. $3x + 0 = 3x$

Find the value of each of the following.

11. $(57 + 34) + -34 =$ _____   12. $(92 + 76) + 8 =$ _____

13. $63 + (75 - 63) =$ _____   14. $(85 + 7) + (33 - 85) =$ _____

Simplify each of the following expressions.

15. $3x + 4y + 5x =$ _____   16. $8x + 9y - 8x =$ _____

17. $(5a + 3) + (8a - 3) =$ _____   18. $(7c + 6d) + (c - 4d) =$ _____

19. $(3x - 2y) + (-3x + 2y) =$ _____   20. $(7x + 9) + (3x + 7) =$ _____

Match the property with its name.

____ 21. Commutative Law of Multiplication   A. If $x \neq 0$, then $x(1/x) = 1$.

____ 22. Associative Law of Multiplication   B. $1x = x$

____ 23. Identity Law of Multiplication   C. If $y \neq 0$, then $x \div y = x(1/y)$.

____ 24. Inverse Law of Multiplication   D. $xy = yx$

____ 25. Definition of Division   E. $(xy)z = x(yz)$

Name the property that is illustrated in each of the following examples.

_____   26. $4(2x) = (4 \cdot 2)x$

_____   27. $(1/5) \cdot (5) = 1$

_____   28. $k = 1k$

_____   29. $y \cdot 2 = 2y$

_____   30. $3 \div 4 = 3(1/4)$

Find the value of each of the following.

31. $(43 \cdot 4) \cdot 25 = $ _____   32. $(5 \cdot 39) \cdot 2 = $ _____

33. $(63 \cdot 42) \div 63 = $ _____   34. $(531 \div 9) \cdot 9 = $ _____

Simplify each of the following expressions.

35. $3(5x) = $ _____   36. $7(2p) = $ _____

37. $(1/3)(3x) = $ _____   38. $6x \div 6 = $ _____

39. $15a \div 5 = $ _____   40. $21k \div 3 = $ _____