Unit 3 Study Guide

Evaluate each expression if x = 6, y = 2 and w = (-2).

1. $x - x^2 + w$
2. $-w + 5y$
3. $3(2x - 4w) + 8y$
4. The absolute value of 10xyw
5. 4y/w

Translate each phrase into an algebraic expression.

6. 7 less than twice a number *x*
7. The quantity of *x* divided by 5 plus *k*
8. 8 times the sum of *a* and *b*
9. It costs $15 to get in the county fair. Each ride ticket is $0.50. Write an expression for the total amount spent using *"t"* number of tickets.

Translate each algebraic expression into words.

10. 5g + 6c
11. 4y(12)
12. 8(h ÷ 9)
13. 7 – 5r

Identify each property.

14. 5(6 – d) = 30 – 5d distributive
15. a + bc = bc + a commutative
16. 3(4 + 0) = 3(4) identity
17. 0(7) = 0
18. 7 x (4 x g) = (7 x 4) x g
19. xy = yx commutative
20. -9 + 9 = 0 inverse
21. 1(h) = h identity
22. 6 + (g + 8) = (6 + g) + 8
23. 1/y · y = 1 inverse

24. Identify the area, length and width of the area model.

$54y^2$	12y

6y

9y

2

12y

Area= $6y(9y+2)$ $54y^2+12y$ length = $9y+2$ width = $6y$

Simplify each expression by combining like terms.

25. $6w^3 + w + 5 + 7w^3$ $= (6w^3 + w + 5 + 7w^3) = 13w^3 + w - 95$

26. $-237g + 300g$ $= 63g$

27 $h + 3h + 12 + h^2 + 12$ $= h^2 + 4h + 24$

$\frac{54y \cdot y}{6y}$

$9y$

28. $4(5x + 3w) + x + w + 6x(7 + 3)$

$20x + 12w + x + w + 42x + 18x = 93x + 13w$

29. $6x + 5x(x + 7)$

$6x + 5x^2 + 35x = 5x^2 + 41x$

30. $8d(2d + 8) + d^2$

$16d^2 + 64d + d^2$

$17d^2 + 64d$

31. $10 + 0.75y$

32. $5g$

$3x(y + 9)$

$3xy + 27x$