Name _____ Class _____ Date _____

Practice 1-2

Algebraic Expressions

Simplify by combining like terms.

1. $6x + x$

2. $11t + 3t - 5$

3. $-6a - 5a + b - 1$

4. $5i + 7j - 3i$

5. $16xy - 4xy$

6. $5x - 3x^2 + 16x^2$

7. $3(m - 2) + m$

8. $\frac{3(a - b)}{9} + \frac{4}{9}b$

9. $t + \frac{t^2}{2} + t^2 + t$

10. $4a - 5(a + 1)$

11. $2(m - n^2) - 6(n^2 + 3m)$

12. $x(x - y) + y(y - x)$

13. The expression $6s^2$ represents the surface area of a cube with edges of length s. Find the surface area of a cube with each edge length.

a. 3 inches **b.** 1.5 meters

14. The expression $4.95 + 0.07x$ models a household's monthly long-distance charges, where x represents the number of minutes of long-distance calls during the month. Find the monthly charges for 73 minutes.

Evaluate each expression for the given value of the variable.

15. $5y^2 + y + 1; y = 4$

16. $a + 6 + 3a; a = 5$

17. $-t^2 - (3t + 2); t = 5$

18. $i^2 - 5(i^3 - i^2); i = 7$

19. $k + 2 - 4k - 1; k = -3$

20. $6a - 3a^2 - 2a^3; a = 1$

21. $-m(2m + m^2); m = -4$

22. $3 - 2n - 5 + n^2; n = -3$

23. $12b - 3 + b^2; b = 9$

24. $a^2 + b^2; a = 3, b = 4$

25. $c(3 - a) - c^2; a = 4, c = -1$

26. $-a^2 + 3(d - 2a); a = 2, d = -3$

27. Write an expression for the perimeter of the figure as the sum of the lengths of its sides. Then simplify your answer.