

**Practice B**

For use with pages 625–632

Find the greatest common factor and factor it out of the expression.

1.  $6x^2 + 10x$

2.  $5c^3 - 25c^2 + 10c$

3.  $15y^3 + 6y^2 - 21y$

4.  $10x^4 + 16x^3 + 4x^2$

5.  $4d^4 + d^3 - 3d^2$

6.  $8a^5 - 10a^3 + 18a^2$

Tell whether the expression is factored completely. If the expression is not factored completely, write the complete factorization.

7.  $3(x^2 + 9)$

8.  $5(n^2 + 8n + 16)$

9.  $2(x^2 - 4)$

10.  $3m(m^2 + 9m + 27)$

11.  $2(x^2 + 7x + 6)$

12.  $3t(t^2 - 5t + 10)$

Factor the expression completely.

13.  $6x^3 + 18x^2$

14.  $3c^3 - 12c$

15.  $-10m^3 - 2m$

16.  $35a^3 - 28a^2$

17.  $32x - 48x^2$

18.  $35xy - 60x^2$

19.  $3m^2 + 24m + 36$

20.  $4x^2 + 4x - 80$

21.  $2t^3 + 2t^2 - 12t$

22.  $6x^3 + 24x^2 + 24x$

23.  $x^3 + x^2 + 4x + 4$

24.  $d^3 + 2d^2 + 3d + 6$

Solve the equation. Tell which solution method you used.

25.  $x^2 + 7x + 6 = 0$

26.  $x^2 - 5x + 9 = 0$

27.  $4x^2 - 28x + 49 = 0$

28.  $3x^2 - 6x + 2 = 0$

29.  $7x^2 - 2x + 5 = 0$

30.  $5x^2 + 4x - 3 = 0$

**Vertical Motion** In Exercises 31 and 32, use the vertical motion model  $h = 16t^2 - vt$ , where  $h$  is the initial height (in feet),  $v$  is the initial velocity (in feet per second), and  $t$  is the time (in seconds) the object spends in the air.

31. **Baseball** You toss a baseball from a height of 32 feet with an initial upward velocity of 16 feet per second. How long will it take the baseball to reach the ground?

32. **Rocket** You launch a rocket from a height of 64 feet with an initial upward velocity of 48 feet per second. How long will it take the rocket to reach the ground?