Extra Practice

Lesson 9-5

(pages 501–506)

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*. 13. $(3x - 10y)(3x + 10y)$

1. $x^2 - 9$ $(x - 3)(x + 3)$
2. $a^2 - 64$ $(a - 8)(a + 8)$
3. $4x^2 - 9y^2$ $(2x - 3y)(2x + 3y)$
4. $1 - 9z^2$ $(1 - 3z)(1 + 3z)$
5. $16a^2 - 9b^2$ $(4a - 3b)(4a + 3b)$
6. $8x^2 - 12y^2$ $4(2x^2 - 3y^2)$
7. $a^2 - 4b^2$ $(a - 2b)(a + 2b)$
8. $x^2 - y^2$ $(x - y)(x + y)$
9. $75r^2 - 48$ $3(5r - 4)(5r + 4)$
10. $x^2 - 36y^2$ $(x - 6y)(x + 6y)$
11. $3a^2 - 16$ prime
12. $12t^2 - 75$ $3(2t - 5)(2t + 5)$
13. $9x^2 - 100y^2$
14. $49 - a^2b^2$ $(7 - ab)(7 + ab)$
15. $5a^2 - 48$ prime
16. $169 - 16t^2$ $(13 - 4t)(13 + 4t)$
17. $8r^2 - 4$ $4(2r^2 - 1)$
18. $-45m^2 + 5$ $-5(3m - 1)(3m + 1)$

Solve each equation by factoring. Check your solutions.

19. $4x^2 = 16$ $\{\pm 2\}$
20. $2x^2 = 50$ $\{\pm 5\}$
21. $9n^2 - 4 = 0$ $\left\{\pm \frac{2}{3}\right\}$
22. $a^2 - \frac{25}{36} = 0$ $\left\{\pm \frac{5}{6}\right\}$
23. $\frac{16}{9} - b^2 = 0$ $\left\{\pm \frac{4}{3}\right\}$
24. $18 - \frac{1}{2}x^2 = 0$ $\{\pm 6\}$
25. $20 - 5g^2 = 0$ $\{\pm 2\}$
26. $16 - \frac{1}{4}p^2 = 0$ $\{\pm 8\}$
27. $\frac{1}{4}c^2 - \frac{4}{9} = 0$ $\left\{\pm \frac{4}{3}\right\}$
28. $3z^2 - 48 = 0$ $\{\pm 4\}$
29. $72 - 2z^2 = 0$ $\{\pm 6\}$
30. $25a^2 = 1$ $\left\{\pm \frac{1}{5}\right\}$
31. $2q^3 - 2q = 0$ $\{-1, 0, 1\}$
32. $3r^3 = 48r$ $\{-4, 0, 4\}$
33. $100d - 4d^3 = 0$ $\{-5, 0, 5\}$