Extra Practice

Lesson 10-4

(pages 546–552)

Solve each equation by using the Quadratic Formula. Round to the nearest tenth, if necessary.

1. $x^2 - 8x - 4 = 0$ **$-0.5, 8.5$**
2. $x^2 + 7x - 8 = 0$ **$-8, 1$**
3. $x^2 - 5x + 6 = 0$ **$2, 3$**
4. $y^2 - 7y - 8 = 0$ **$-1, 8$**
5. $m^2 - 2m = 35$ **$-5, 7$**
6. $4n^2 - 20n = 0$ **$0, 5$**
7. $m^2 + 4m + 2 = 0$ **$-0.6, -3.4$**
8. $2t^2 - t - 15 = 0$ **$-2.5, 3$**
9. $5t^2 = 125$ **$-5, 5$**
10. $t^2 + 16 = 0$ **$\varnothing$**
11. $-4x^2 + 8x = -3$ **$-0.3, 2.3$**
12. $3k^2 + 2 = -8k$ **$-2.4, -0.3$**
13. $8t^2 + 10t + 3 = 0$ **$-\frac{3}{4}, -\frac{1}{2}$**
14. $3x^2 - \frac{5}{4}x - \frac{1}{2} = 0$ **$\frac{2}{3}, -\frac{1}{4}$**
15. $-5b^2 + 3b - 1 = 0$ **$\varnothing$**
16. $s^2 + 8s + 7 = 0$ **$-7, -1$**
17. $d^2 - 14d + 24 = 0$ **$2, 12$**
18. $3k^2 + 11k = 4$ **$-4, \frac{1}{3}$**
19. $n^2 - 3n + 1 = 0$ **$2.6, 0.4$**
20. $2z^2 + 5z - 1 = 0$ **$0.2, -2.7$**
21. $3h^2 = 27$ **$3, -3$**

State the value of the discriminant for each equation. Then determine the number of real roots of the equation.

22. $3f^2 + 2f = 6$ **76; 2 real roots**
23. $2x^2 = 0.7x + 0.3$ **2.89; 2 real roots**
24. $3w^2 - 2w + 8 = 0$ **-92; no real roots**
25. $4r^2 - 12r + 9 = 0$ **0; 1 real root**
26. $x^2 - 5x = -9$ **-11; no real roots**
27. $25t^2 + 30t = -9$ **0; 1 real root**