10.6 EXERCISES

HOMEWORK KEY

- = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 19 and 47
- = **TAKS PRACTICE AND REASONING** Exs. 12, 25, 50, 52, and 53
- = **MULTIPLE REPRESENTATIONS** Ex. 49

SKILL PRACTICE

1. **VOCABULARY** What formula can be used to solve any quadratic equation?

2. **WRITING** What method(s) would you use to solve $-x^2 + 8x = 1$? *Explain* your choice(s).

EXAMPLES 1 and 2 on pp. 671–672 for Exs. 3–27

SOLVING QUADRATIC EQUATIONS **Use the quadratic formula to solve the equation. Round your solutions to the nearest hundredth, if necessary.**

3. $x^2 + 5x - 104 = 0$
4. $4x^2 - x - 18 = 0$
5. $6x^2 - 2x - 28 = 0$
6. $m^2 + 3m + 1 = 0$
7. $-z^2 + z + 14 = 0$
8. $-2n^2 - 5n + 16 = 0$
9. $4w^2 + 20w + 25 = 0$
10. $2t^2 + 3t - 11 = 0$
11. $-6g^2 + 9g + 8 = 0$

12. **TAKS REASONING** What are the solutions of $10x^2 - 3x - 1 = 0$?

(A) $-\frac{1}{5}$ and $-\frac{1}{2}$ (B) $-\frac{1}{5}$ and $\frac{1}{2}$ (C) $\frac{1}{5}$ and $-\frac{1}{2}$ (D) $\frac{1}{5}$ and $\frac{1}{2}$

SOLVING QUADRATIC EQUATIONS **Use the quadratic formula to solve the equation. Round your solutions to the nearest hundredth, if necessary.**

13. $x^2 - 5x = 14$
14. $3x^2 - 4 = 11x$
15. $9 = 7x^2 - 2x$
16. $2m^2 + 9m + 7 = 3$
17. $-10 = r^2 - 10r + 12$
18. $3g^2 - 6g - 14 = 3g$
19. $6z^2 = 2z^2 + 7z + 5$
20. $8h^2 + 8 = 6 - 9h$
21. $4t^2 - 3t = 5 - 3t^2$
22. $-4y^2 - 3y + 3 = 2y + 4$
23. $7n + 5 = -3n^2 + 2$
24. $5w^2 + 4 = w + 6$

25. **TAKS REASONING** What are the solutions of $x^2 + 14x = 2x - 11$?

(A) -2 and -22 (B) -1 and -11 (C) 1 and 11 (D) 2 and 22

ERROR ANALYSIS ***Describe*** **and correct the error in solving the equation.**

26. $7x^2 - 5x - 1 = 0$

$$x = \frac{-5 \pm \sqrt{(-5)^2 - 4(7)(-1)}}{2(7)}$$
$$= \frac{-5 \pm \sqrt{53}}{14}$$
$x \approx -0.88$ and $x \approx 0.16$ ✗

27. $-2x^2 + 3x = 1$

$$x = \frac{-3 \pm \sqrt{3^2 - 4(-2)(1)}}{2(-2)}$$
$$= \frac{-3 \pm \sqrt{17}}{-4}$$
$x \approx -0.28$ and $x \approx 1.78$ ✗

EXAMPLE 4 on p. 673 for Exs. 28–33

CHOOSING A METHOD **Tell what method(s) you would use to solve the quadratic equation. *Explain* your choice(s).**

28. $3x^2 - 27 = 0$
29. $5x^2 = 25$
30. $2x^2 - 12x = 0$
31. $m^2 + 5m + 6 = 0$
32. $z^2 - 4z + 1 = 0$
33. $-10g^2 + 13g = 4$