HOMEWORK KEY

○ = **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 19 and 47

◆ = **TAKS PRACTICE AND REASONING**
Exs. 24, 25, 49, 52, and 53

◆◆ = **MULTIPLE REPRESENTATIONS**
Ex. 47

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: The process of writing an expression of the form $x^2 + bx$ as a perfect square trinomial is called __?__.

2. **WRITING** Give an example of an expression that is a perfect square trinomial. *Explain* why the expression is a perfect square trinomial.

EXAMPLE 1
on p. 663
for Exs. 3–11

COMPLETING THE SQUARE Find the value of c that makes the expression a perfect square trinomial. Then write the expression as the square of a binomial.

3. $x^2 + 6x + c$

4. $x^2 + 12x + c$

5. $x^2 - 4x + c$

6. $x^2 - 8x + c$

7. $x^2 - 3x + c$

8. $x^2 + 5x + c$

9. $x^2 + 2.4x + c$

10. $x^2 - \frac{1}{2}x + c$

11. $x^2 - \frac{4}{3}x + c$

EXAMPLES 2 and 3
on p. 664
for Exs. 12–27

SOLVING EQUATIONS Solve the equation by completing the square. Round your solutions to the nearest hundredth, if necessary.

12. $x^2 + 2x = 3$

13. $x^2 + 10x = 24$

14. $c^2 - 14c = 15$

15. $n^2 - 6n = 72$

16. $a^2 - 8a + 15 = 0$

17. $y^2 + 4y - 21 = 0$

18. $w^2 - 5w = \frac{11}{4}$

19. $z^2 + 11z = -\frac{21}{4}$

20. $g^2 - \frac{2}{3}g = 7$

21. $k^2 - 8k - 7 = 0$

22. $v^2 - 7v + 1 = 0$

23. $m^2 + 3m + \frac{5}{4} = 0$

24. ◆ **TAKS REASONING** What are the solutions of $4x^2 + 16x = 9$?

Ⓐ $-\frac{1}{2}, -\frac{9}{2}$
Ⓑ $-\frac{1}{2}, \frac{9}{2}$
Ⓒ $\frac{1}{2}, -\frac{9}{2}$
Ⓓ $\frac{1}{2}, \frac{9}{2}$

25. ◆ **TAKS REASONING** What are the solutions of $x^2 + 12x + 10 = 0$?

Ⓐ $-6 \pm \sqrt{46}$
Ⓑ $-6 \pm \sqrt{26}$
Ⓒ $6 \pm \sqrt{26}$
Ⓓ $6 \pm \sqrt{46}$

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

26. $x^2 - 14x = 11$

$$x^2 - 14x = 11$$
$$x^2 - 14x + 49 = 11$$
$$(x - 7)^2 = 11$$
$$x - 7 = \pm\sqrt{11}$$
$$x = 7 \pm \sqrt{11}$$
✗

27. $x^2 - 2x - 4 = 0$

$$x^2 - 2x - 4 = 0$$
$$x^2 - 2x = 4$$
$$x^2 - 2x + 1 = 4 + 1$$
$$(x + 1)^2 = 5$$
$$x + 1 = \pm\sqrt{5}$$
$$x = 1 \pm \sqrt{5}$$
✗