

LESSON
9.7**Practice B**

For use with pages 600–605

Factor the polynomial.

1. $x^2 - 36$

2. $25p^2 - 144$

3. $4b^2 - 100$

4. $36m^2 - 81$

5. $-2x^2 + 32$

6. $-4r^2 + 100s^2$

7. $y^2 + 24y + 144$

8. $9c^2 + 24c + 16$

9. $25w^2 - 20w + 4$

10. $16n^2 - 56n + 49$

11. $-18a^2 - 12a - 2$

12. $20z^2 - 140z + 245$

Solve the equation.

13. $x^2 + 14x + 49 = 0$

14. $8w^2 = 50$

15. $64p^2 - 16p + 1 = 0$

16. $8a^2 - 72 = 0$

17. $3m^2 + 30m + 75 = 0$

18. $-4y^2 + 32y - 64 = 0$

19. $-5x^2 + 125 = 0$

20. $-7r^2 + 140r - 700 = 0$

21. $24w^2 - 24w + 6 = 0$

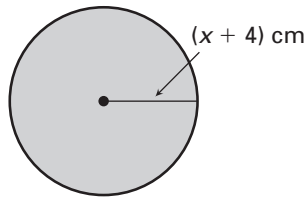
22. $18n^2 + 60n + 50 = 0$

23. $\frac{25}{2}x^2 + 15x + \frac{9}{2} = 0$

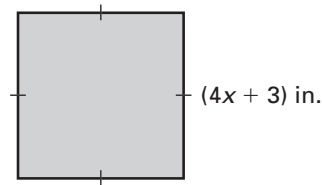
24. $4x^2 = \frac{9}{16}$

Find the value of x in the geometric shape.

25. Area = $144\pi \text{ cm}^2$



26. Area = 225 in.^2



27. **Measuring Tape** A measuring tape drops from a roof that is 16 feet above the ground. After how many seconds does the measuring tape land on the ground?

28. **Playground** A curved ladder that children can climb on can be modeled by the equation

$$y = -\frac{1}{20}x^2 + x$$

where x and y are measured in feet.

- Make a table of values that shows the height of the ladder for $x = 0, 5, 10, 15,$ and 20 feet from the left end.
- For what additional values of x does the equation make sense? *Explain.*
- Plot the ordered pairs in the table from part (a) as points in the coordinate plane. Connect the points with a smooth curve.
- At approximately what distance from the left end does the ladder reach a height of 5 feet? Check your answer algebraically.

