Name	Date
Bridge to Algebra 2	Factoring DAY THREE WS

1 - 3: Factor the polynomial.

1. $k^2 + 14k + 49$ **2.** $m^2 - 18m + 81$ **3.** $x^2 + 34x + 289$

4 - 9: Factor the polynomial.

4. $x^2 - 36$ **5.** $m^2 - 49$ **6.** $1 - 25y^2$

7.
$$5x^2 - 20$$
 8. $4x^2 - 24x + 36$ **9.** $9x^2 + 90x + 225$

Real World Problem: Use appropriate units. Then draw and label a diagram to get a visual.

- 10. The area (in square centimeters) of a square thank-you card can be represented by $x^2 + 6x + 9$.
 - **a.** Write an expression that represents the side length of the card.
 - **b.** What is the perimeter of the card when x = 4?

11 - 14: Solve the equation.

11.
$$v^2 - 25 = 0$$
 12. $p^2 + 8p + 16 = 0$

13.
$$q^2 - 14q + 49 = 0$$
 14. $16x^2 = 25$

15 - 16: Real-World Problems. Sketch an image to get a better visual. Use appropriate units.

15. While standing on a roof, you drop a hammer. The function $y = 16 - 16t^2$ represents the height y (in feet) of the hammer t seconds after it is dropped. After how many seconds does the hammer land on the ground?

- **16.** A square picture frame has side length *x* inches. The square opening for a picture within the frame has side length 3 inches.
 - **a.** Write a polynomial that represents the area of the picture frame, not including the picture.
 - **b.** The area in part (a) is 55 square inches. What is the side length of the picture frame? Explain your reasoning.