12-2B Lesson Master

**SKILLS** Objective A

1. a. Find the sum of the areas of the three smallest rectangles at the right.

   
   
   

   b. What is the area of the undrawn rectangle needed to complete the larger square?

   
   
   

   c. Write an algebraic expression to represent the area of the larger square using the sum of the areas of the four smaller rectangles.

   
   
   

   d. Write an algebraic expression using the side length of the largest square to represent the area of the largest square.

   
   
   

In 2–9, a quadratic expression is given.

a. What number must be added to the expression to complete the square?

b. After adding that number, the expression is the square of what binomial?

2. \(x^2 - 10x\)  
   a. \(\underline{3}\)  
   b. \(\underline{1}\)

3. \(b^2 + 38b\)  
   a. \(\underline{19}\)  
   b. \(\underline{19}\)

4. \(c^2 + c\)  
   a. \(\underline{1}\)  
   b. \(\underline{1}\)

5. \(t^2 - 26t\)  
   a. \(\underline{169}\)  
   b. \(\underline{169}\)

6. \(x^2 - 18x\)  
   a. \(\underline{81}\)  
   b. \(\underline{81}\)

7. \(k^2 + 1.4k\)  
   a. \(\underline{1.4}\)  
   b. \(\underline{1.4}\)

8. \(c^2 + 200c\)  
   a. \(\underline{10000}\)  
   b. \(\underline{10000}\)

9. \(f^2 - \frac{5}{6}f\)  
   a. \(\underline{-\frac{5}{12}}\)  
   b. \(\underline{-\frac{5}{12}}\)
REPRESENTATIONS  Objective I

In 10 and 11, a quadratic equation is given.

a. Find the vertex of the parabola.
b. Sketch the graph of the parabola.

10. \( y = x^2 + 2x + 7 \)

b. 

a. __________________________

11. \( y = -x^2 + 8x - 18 \)

b. 

a. __________________________