1. A. 9 sq cm; 3 cm × 3 cm = 9 sq cm
   B. 25 sq cm; 5 cm × 5 cm = 25 sq cm
2. 9 sq cm; 25 sq cm
3. 20.25 sq cm
4. 18 cm
5. A. 16 sq cm
   B. 48 sq cm
6. A. 100 sq cm
   B. 10 cm
7. 120 cm
In Questions 8–11, a rectangle is described. Some are possible and some are crazy. If a problem is possible, find the solution. If it is crazy, explain why.

8. A square has an area of 36 centimeters. What is the perimeter?
9. A square has a perimeter of 20 centimeters. What is the area?
10. Three sides of a rectangle are 19 cm, 7 cm, and 18 cm. Find the area and perimeter of the rectangle.
11. Two sides of a rectangle are 7.6 centimeters and 7.5 centimeters. Calculate the area and perimeter of the rectangle.

12. Below is a green rectangle with a white rectangular hole. The area of the shaded part is 80 square centimeters. The white rectangle is 5 centimeters long, but someone spilled on the paper so you can’t see its width.

Use the following steps to find the width of the white rectangle.

A. Find the area of the large rectangle.
B. Find the area of the white rectangle.
C. What is the length of the white rectangle?
D. Find the width of the white rectangle.

13. The shaded area in the sketch below is 4,554 square centimeters.

Use the following steps to find the width of the large rectangle.

A. Find the area of the large rectangle.
B. Find the area of the white rectangle.
C. Find the width of the large rectangle.

8. 24 cm
9. 25 sq cm
10.* This is not possible; a rectangle has 4 sides and opposite sides are the same length. There can’t be three different side lengths.
11. The area is 57 sq cm; The perimeter is 30.2 cm
12. A. 110 sq cm
   B. 30 sq cm
   C. 5 cm
   D. 6 cm
13. A. 756 sq cm
   B. 5310 sq cm
   C. 90 cm
14.* Possible response: First I found the area of the horizontal rectangle:
   \[272 \text{ cm} \times 68 \text{ cm} = 18,496 \text{ square cm}.\] Then I found the area of the top rectangle:
   \[102 \text{ cm} \times 68 \text{ cm} = 6936 \text{ square cm}.\] Since there are two smaller rectangles, one on top and one on bottom, I doubled 6936 to get 13,872 square cm. \[18,496 + 13,872 = 32,368 \text{ sq cm}.\]
15. Possible response: I do not agree with Levi. One of the rectangles is 272 cm × 68 cm. But Levi counted the middle part of the shape twice—once for the horizontal rectangle and once for the vertical rectangle, so his area will be too large.

16. The area of the pentagon is 79 square centimeters. Possible response: First I found the area of each section of the figure. The rectangle is 10 centimeters long and 4 centimeters wide so the area is 40 square centimeters.

To find the area of each triangle I drew in the lines to make each one into a rectangle. Once I found the area of each rectangle, I knew the area of the triangle would be half.

Triangle BXA has an area of 6 square centimeters.

Triangle BXC has an area of 15 square centimeters.

Triangle AXE has an area of 8 square centimeters.

Triangle DYE has an area of 10 square centimeters.

Finally I added all the areas together:

40 + 15 + 6 + 8 + 10 = 79 square centimeters.

17. 24 square centimeter

*Answers and/or discussion are included in the lesson.
Use Strategies to Find Area

1. The sketch below shows a large square with a square hole inside it. The shaded part is 319 square inches.

   20 inches

   319 square inches

Use the following steps to calculate the side length of the hole.

A. Find the area of the large square.
B. Find the area of the square hole.
C. Find the side length of the square hole.

1. A. $20 \times 20 = 400$ square inches
   B. $400 - 319 = 81$ square inches
   C. $\sqrt{81} = 9$ inches

2. Possible response: I divided the shape into 3 rectangles and then found the area of each small rectangle. The first one was $6 \times 5 = 30$ sq cm. The next one was $3 \times 5 = 15$ sq cm, and the third one was $2 \times 3 = 6$ sq cm. Then I added $30 + 15 + 6 = 51$ sq cm.

3. The area of the big rectangle is $6 \times 10 = 60$ sq cm. The area of the hole is $3 \times 7 = 21$ sq cm. Then I subtracted to find the area of the shaded part. $60 - 21 = 39$ sq cm.