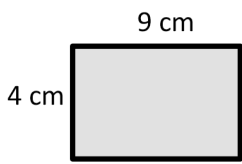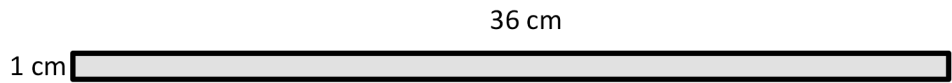Name _____ Date _____
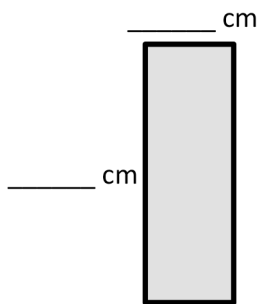
1. The rectangles below have the same area. Move the parentheses to find the missing side lengths. Then, solve.

36 cm

1 cm

9 cm

4 cm

b. Area: 1 × 36 = _____ sq cm

a. Area: 4 × _____ = _____ sq cm

_____ cm

2 cm

_____ cm

c. Area: **4 × 9** = (2 × 2) × 9

= 2 × 2 × 9

= _____ × _____

= _____ sq cm

_____ cm

d. Area: **4 × 9** = 4 × (3 × 3)

= 4 × 3 × 3

= _____ × _____

= _____ sq cm

_____ cm

_____ cm

e. Area: **12 × 3** = (6 × 2) × 3

= 6 × 2 × 3

= _____ × _____
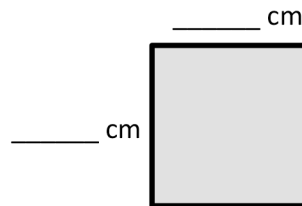
= _____ sq cm

2. Does Problem 1 show all the possible whole number side lengths for a rectangle with an area of 36 square centimeters? How do you know?

3.   a.   Find the area of the rectangle below.

6 cm

8 cm
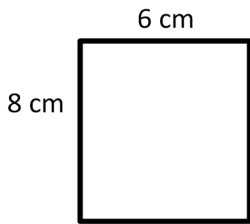
b.   Hilda says a 4 cm by 12 cm rectangle has the same area as the rectangle in Part (a). Place parentheses in the equation to find the related fact and solve. Is Hilda correct? Why or why not?

4 × 12 = 4 × 2 × 6

= 4 × 2 × 6

= _____ × _____

= _____ sq cm

c.   Use the expression 8 × 6 to find different side lengths for a rectangle that has the same area as the rectangle in Part (a). Show your equations using parentheses. Then, estimate to draw the rectangle and label the side lengths.

Answer Key

1. a. 9, 36
   b. 36
   c. 18; 2, 18; 36
   d. 12, 3; 12, 3; 36
   e. 6, 6; 6, 6; 36
2. Yes, answers will vary.
3. a. 48 sq cm
   b. 8, 6; 48; yes; answers will vary.
   c. Answers will vary.