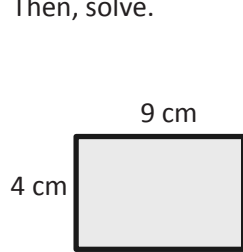


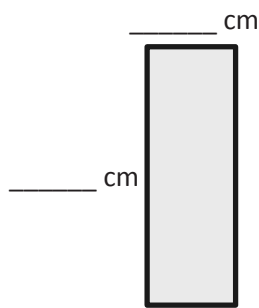
Name \_\_\_\_\_

Date \_\_\_\_\_

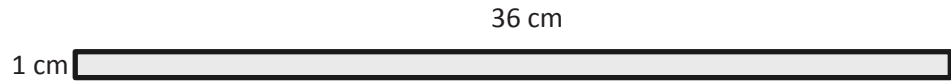
1. The rectangles below have the same area. Move the parentheses to find the unknown side lengths. Then, solve.



a. Area:  $4 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$   
 Area:  $\underline{\hspace{1cm}}$  sq cm



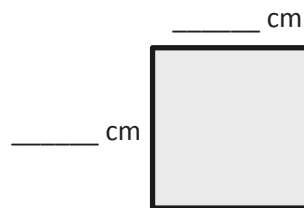
d. Area:  $4 \times 9 = 4 \times (3 \times 3)$   
 $= 4 \times 3 \times 3$   
 $= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$   
 $= \underline{\hspace{1cm}}$   
 Area:  $\underline{\hspace{1cm}}$  sq cm



b. Area:  $1 \times 36 = \underline{\hspace{1cm}}$   
 Area:  $\underline{\hspace{1cm}}$  sq cm



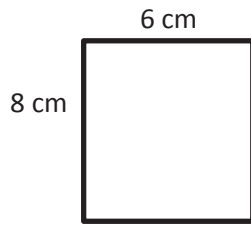
c. Area:  $4 \times 9 = (2 \times 2) \times 9$   
 $= 2 \times 2 \times 9$   
 $= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$   
 $= \underline{\hspace{1cm}}$   
 Area:  $\underline{\hspace{1cm}}$  sq cm



e. Area:  $12 \times 3 = (6 \times 2) \times 3$   
 $= 6 \times 2 \times 3$   
 $= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$   
 $= \underline{\hspace{1cm}}$   
 Area:  $\underline{\hspace{1cm}}$  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.



- 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?

$$\begin{aligned}4 \times 12 &= 4 \times 2 \times 6 \\ &= 4 \times 2 \times 6 \\ &= \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} \\ \text{Area: } &\underline{\quad} \text{ sq cm}\end{aligned}$$

- c. Use the expression  $8 \times 6$  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.