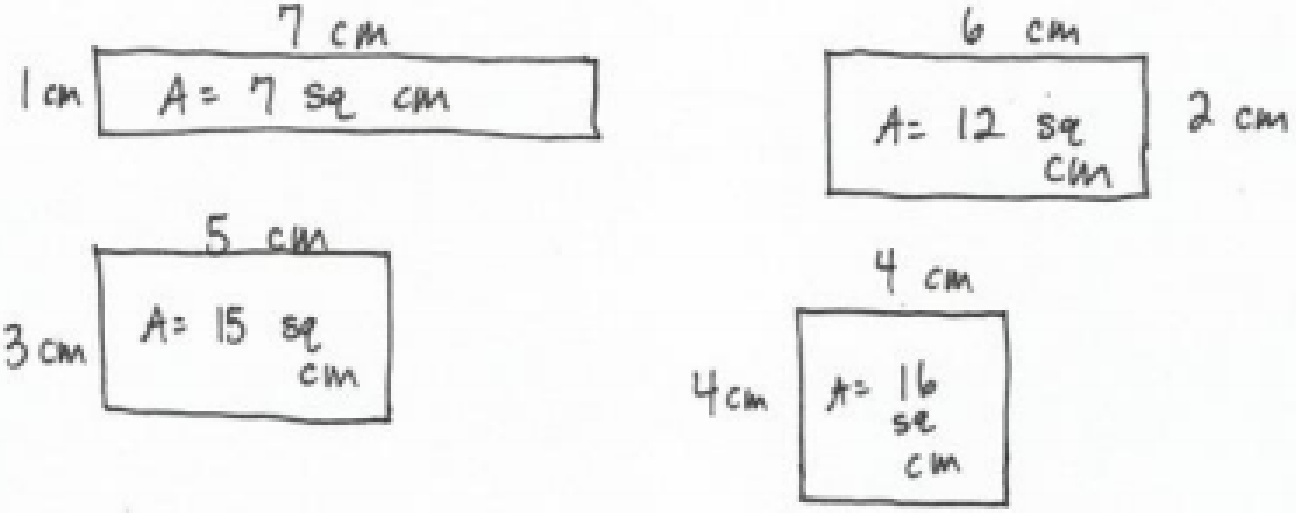
1. On your centimeter grid paper, shade and label as many rectangles as you can with a perimeter of 16 centimeters.

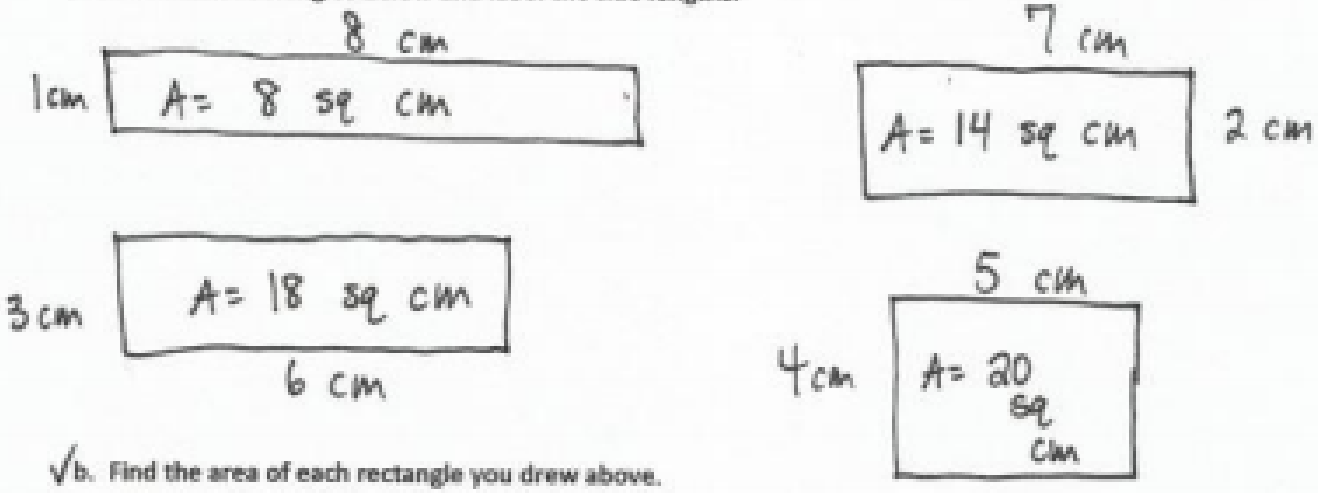
   a. Sketch the rectangles below and label the side lengths.



   √b. Find the area of each rectangle you drew above.

2. On your centimeter grid paper, shade and label as many rectangles as you can with a perimeter of 18 centimeters.

   a. Sketch the rectangles below and label the side lengths.



   √b. Find the area of each rectangle you drew above.

3. Use centimeter grid paper to shade in as many rectangles as you can with the given perimeters.
   a. Use the charts below to show how many rectangles you shaded for each given perimeter. You might not use all the spaces in the charts.

Perimeter = 10 cm Number of rectangles I made: 2		
Width	Length	Area
1 cm	4 cm	4 square cm
2 cm	3 cm	6 sq cm

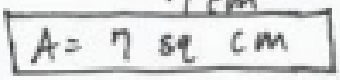
Perimeter = 20 cm Number of rectangles I made: 5		
Width	Length	Area
1 cm	9 cm	9 square cm
2 cm	8 cm	16 sq cm
3 cm	7 cm	21 sq cm
4 cm	6 cm	24 sq cm
5 cm	5 cm	25 sq cm

   b. Did you make a square with either of the given perimeters? How do you know?

Yes, I made a square with the given perimeter of 20 cm. I know because one rectangle had side lengths all equal to 5 cm and a rectangle with 4 equal side lengths is a square.

4. Macy and Gavin both draw rectangles with perimeters of 16 centimeters. Use words and pictures to explain how it's possible for Macy's and Gavin's rectangles to have the same perimeters, but different areas.

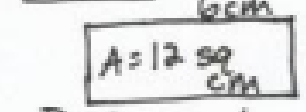
Macy



P= 1 cm + 7 cm + 1 cm + 7 cm

P= 16 cm

Gavin



P= 2 cm + 6 cm + 2 cm + 6 cm

P= 16 cm

Macy's and Gavin's rectangles both have perimeters of 16 cm, but the areas are different because the side lengths are different and $1 \times 7 = 7$ and $2 \times 6 = 12$.