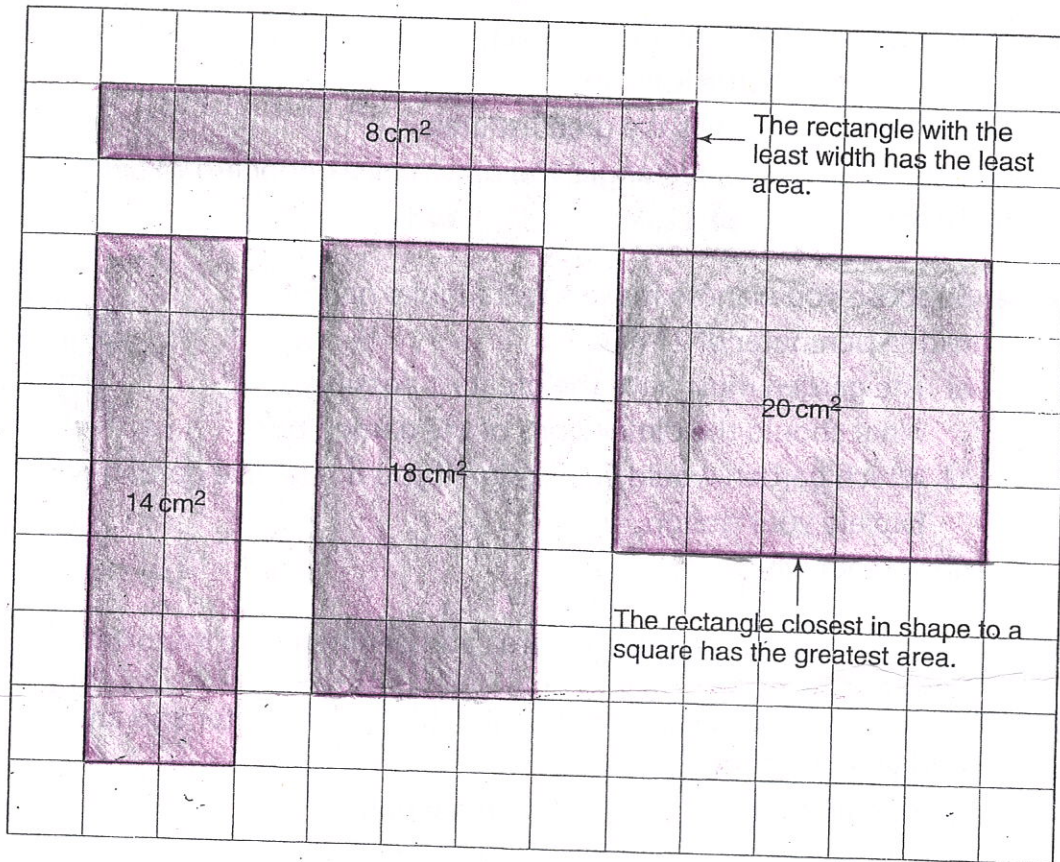


## Connect

Rectangles with equal perimeters can have different areas.  
Each rectangle below has perimeter 18 cm.



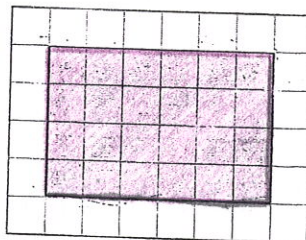
## Practice

- Copy each rectangle onto 1-cm grid paper. For each rectangle:
  - Find the perimeter.
  - Draw a rectangle with the same perimeter but greater area.
  - Draw a rectangle with the same perimeter but lesser area.
  - Find the area of each rectangle you draw.

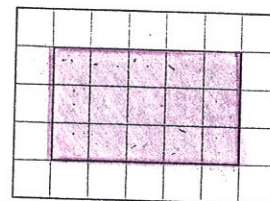
a)



b)



c)



2. Use 1-cm grid paper.

Draw all possible rectangles with each perimeter.

Find the area of each rectangle.

- a) 16 cm                      b) 20 cm                      c) 14 cm

3. Draw 2 different rectangles with each perimeter below.

One rectangle has the least area.

The other rectangle has the greatest area.

Find the area of each rectangle you draw. Use a geoboard to help you.

- a) 10 cm                      b) 12 cm                      c) 8 cm



4. Suppose you want to make a rectangular garden with a perimeter of 24 m.

- a) The garden must have the greatest possible area.

What should the dimensions of the garden be?

- b) Which garden would you design if you do not like garden work?

Explain your design.

Show your work.



5. Describe a situation where both area and perimeter are important.

6. Use a geoboard to make a rectangle with each perimeter and area.

Record your work on dot paper.

- a) perimeter 24 units and area 32 square units

- b) perimeter 14 units and area 10 square units

- c) perimeter 8 units and area 4 square units

7. Xavier has 16 m of fencing to put around his square flower garden.

- a) What are the side lengths of Xavier's garden? How do you know?

- b) What is the area of his garden?

8. Sarah has 100 cm of trim for each rectangular placemat she is making.

- a) List the lengths and widths of 6 possible placemats.

- b) Which placemat in part a would be the best size?

Give reasons for your choice.

## Reflect

Write a letter to a friend to explain the difference between area and perimeter.