

Maximizing the Area of a Rectangle

1. What dimensions will provide maximum area for a rectangle with each perimeter?

a) 60 m

b) 128 km

2. What is the maximum area of a table top whose perimeter is 500 cm?

3. You need to enclose a swimming pool on all four sides with fencing. Each piece of fencing is 120 cm wide. What is the maximum area that you can enclose if you have

a) 20 pieces of fencing?

b) 36 pieces of fencing?

4. Using 120-cm wide fencing, Martin constructs a rectangular garden beside his house so that the side of his house acts as a border for the garden.

a) Draw a diagram and label the dimensions of the maximum area using 20 pieces of fencing.

b) For the fencing in part a), what additional area is provided by using the side of the house as a border?