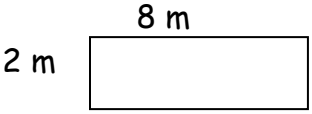
Optimizing Perimeter and Area

A landscaper has 20 sections of fence, each 1 m long, to enclose a rectangular garden. The diagram models one of the possible rectangular shapes with a perimeter of 20 m. Complete the chart below and answer the following questions.

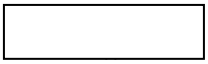


a) What dimensions give the maximum area? (think: what dimensions give me the largest area value?)

b) What is the maximum area?

Rectangle	Width (m)	Length (m)	Perimeter (m)	Area (m^2)
1			20	
2			20	
3			20	
4			20	
5			20	

A farmer wants to fence a rectangular animal pen with the minimum amount of fencing, so that the pen has an area of 24 m^2. The rectangle shown has an area of 24 m^2. Complete the chart below and answer the following questions. 2 m



a) What dimensions uses the minimum amount of fencing? (think: what values give me the smallest perimeter value?)

b) What is the minimum perimeter?

Rectangle	Width (m)	Length (m)	Area (m^2)	Perimeter (m)
1			24	
2			24	
3			24	
4			24	