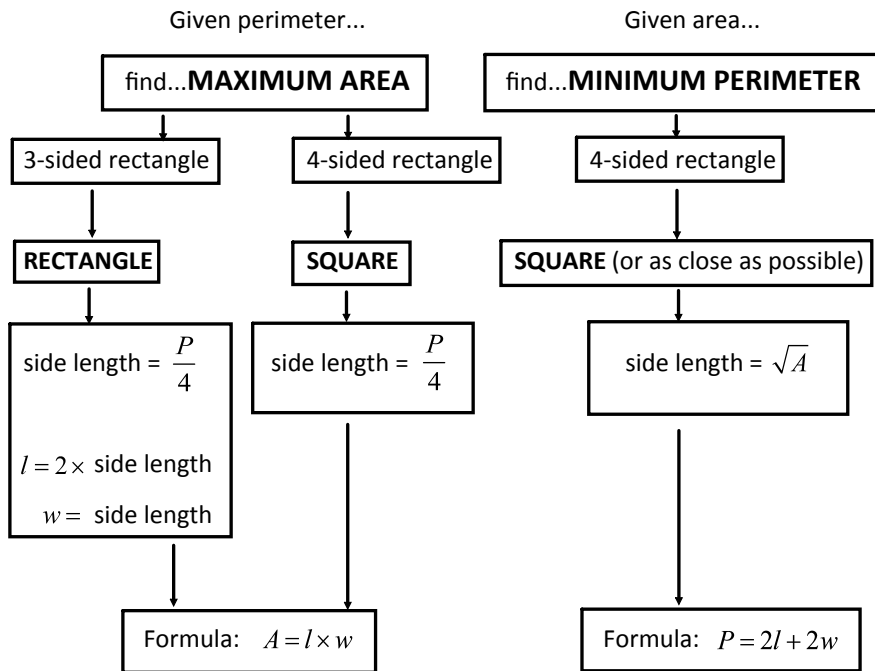


Unit 7: Optimization

UNIT 7 REVIEW

What do I need to know? U7 MIND MAP



EX. 1. Determine the dimensions of a rectangular backyard that give the maximum area if the perimeter is 256 m and the backyard is to be fenced on all four sides.

b) What is the maximum area?

c) Sketch a diagram.

d) Determine the dimensions of the same rectangular backyard if the owner was to decide to only fence three sides.

e) What is the maximum area of this new space?

f) Which option allows the owner to enclose the biggest area? How much more area can he/she enclose with this option?

EX. 2. A lifeguard has 400 m of rope to enclose a rectangular swimming area at the beach. One of the sides is the beach and does not need a rope along it. What dimensions does the swimming area need to have to maximize the space and what area will this create?

EX. 3. Determine the dimensions that give the minimum perimeter for an area of 16 m^2 .

b) What is the minimum perimeter?

c) Sketch a diagram.

EX. 4. A rectangular chicken coop needs to have an area of 150 m^2 . What are the dimensions of the coop that will minimize how much fence is needed around the coop? (The fencing is sold in full metres so cannot be cut).

b) What is the minimum perimeter?

c) Sketch a diagram.