

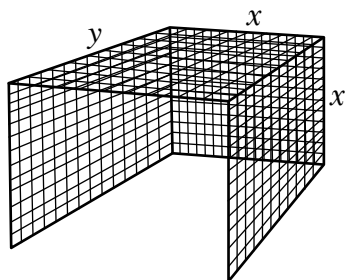


Practice – 3

Once you feel confident with Maximum and Minimum Problems: Geometric Applications, complete problems 1 to 4. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. A piece of paper has an area of 600 cm^2 . The margins at the top and bottom are each 3 cm and the margins at each side are 2 cm. What are the dimensions of the paper if the printed area is a maximum?
2. A net enclosure for batting practice is open at one end. What dimensions will enclose a volume of 144 m^3 and require the least amount of netting material?



3. The longer base of a trapezoid lies on the x -axis. The base vertices correspond to the x -intercepts of the graph of $y = 4 - x^2$, and the other two vertices intersect the same parabola. Find the maximum possible area of the trapezoid.
4. If an isosceles triangle is inscribed in a circle of radius 4 cm, find the dimensions of the isosceles triangle of maximum area.