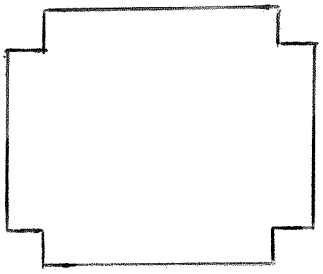
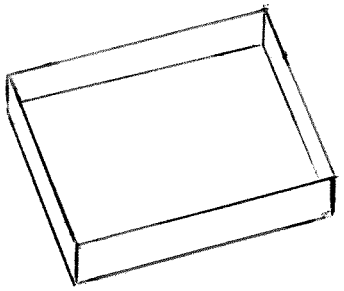
MATH 160 Session #1

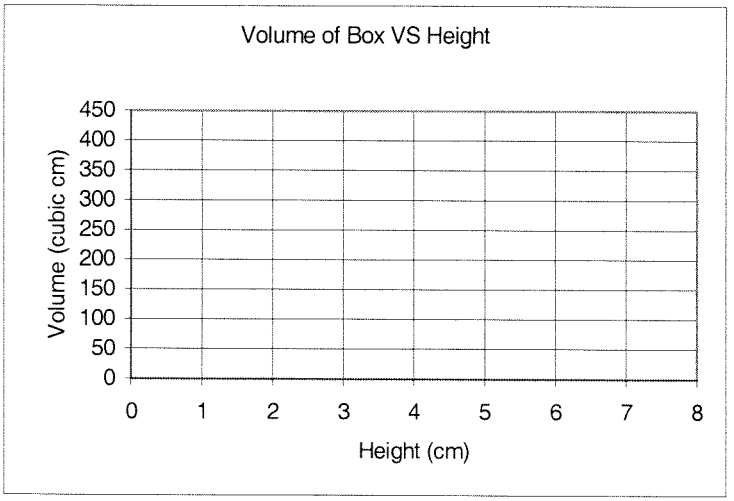
Suppose we form an open box by cutting equal size squares from the corners of a 16-cm by 20-cm piece of cardboard and then turning up the remaining sides of the piece of cardboard to form an open box. What size square should we cut from each corner if our goal is to construct an open box of maximum volume?





You have been given a piece of paper of appropriate size with square corners already cut from the corners. What size square has been cut from the corners of your piece of paper? _____ Turn up the sides of your piece of paper to form an open box. What are the dimensions of your box? _____ What is the volume of your box? _____ Compare your results with others in your class and complete the following table. Also, represent the relationship between the size of the cut out square and the volume of the box with a graph.

size of cut out square box height (cm)	1	2	3	4	5	6	7
volume of resulting box (cm^3)							



Suppose

x = the length (in cm) of a side of a cut out square, and

V(x) = the volume (in cm^3) of a box formed by cutting out x-by-x squares.

Write a rule defining the value of V(x) in terms of x.

On the back of this page write a brief paragraph describing the phenomenon we have investigated.