

An open-topped box is to be made from a rectangular piece of cardboard 9 inches by 8 inches, by cutting an x " by x " square from each corner and bending up the sides. Express the volume of the resulting box in terms of x . Use a graphing calculator and the trace feature to determine the maximum volume.

- Online Grapher: <http://matti.usu.edu/grapher/>

Enter the function

$$f(x) = (9-2x)(8-2x)x .$$

Now adjust the Window to show the graph for x between 0 and 7.

Trace along the graph to show a maximum value of about **45.14** cubic inches at an x -value of approximately **1.4** inches.

