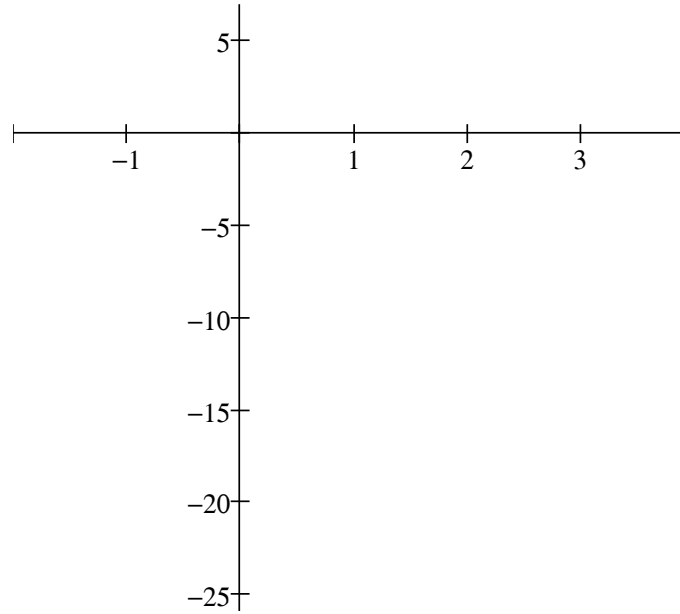


Extreme Values of Functions II

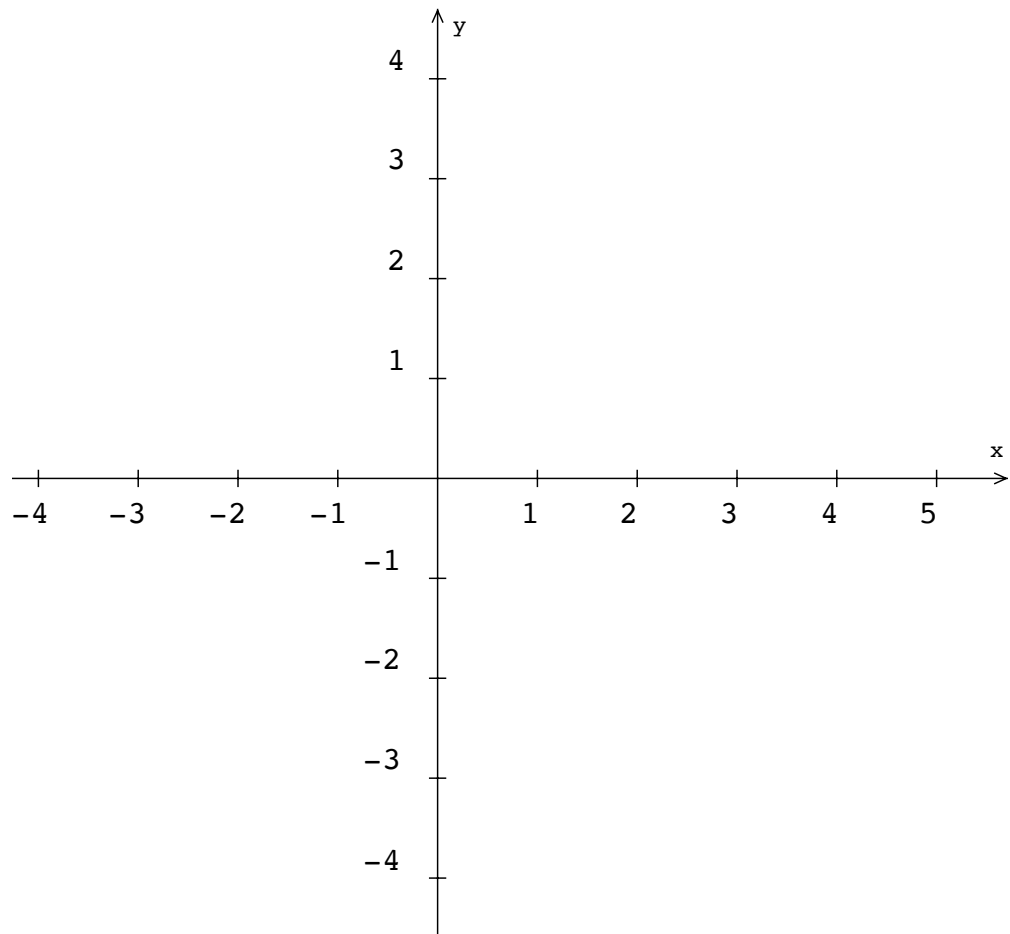
Name _____

Find the critical values of the functions given and indicate which are maxima or minima and determine if it is relative or absolute. Sketch the graph of the function on the axes provided. Show the work that leads to your answers. You may use your calculators only to check your answers.

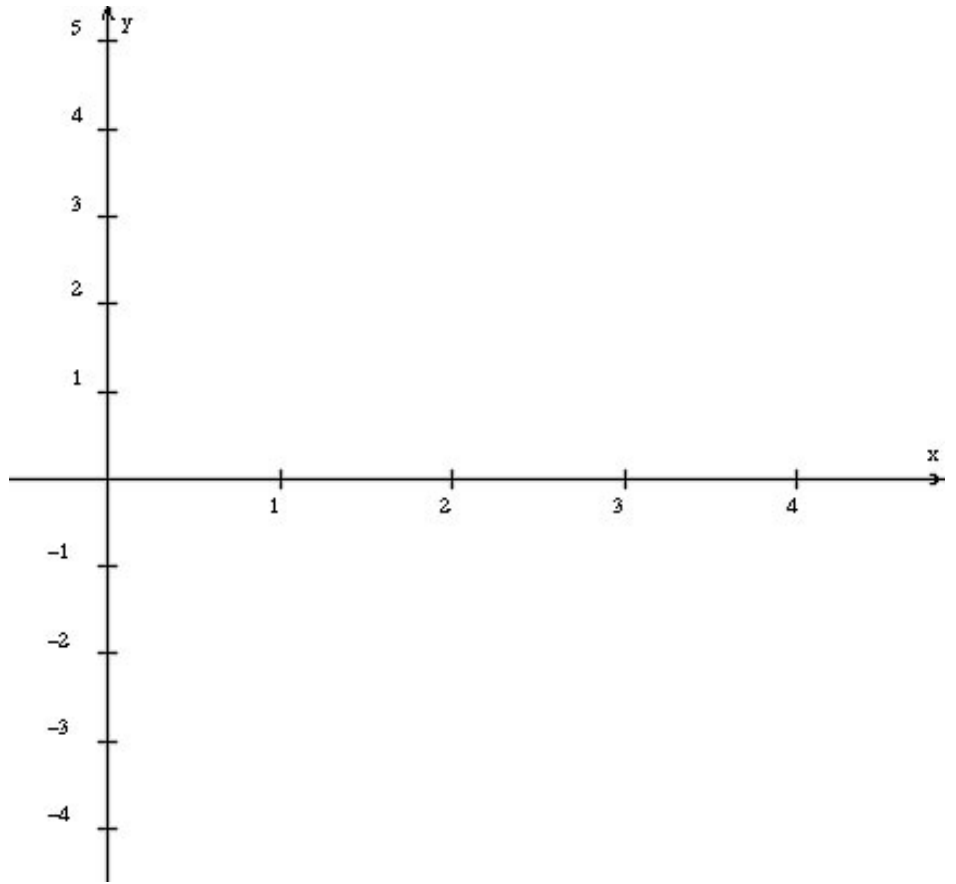
1) $y = 4x^3 - 9x^2 - 12x + 3$



2) $y = x^4 - 4x$



3) $y = x^3 - 6x^2 + 12x - 7$



- 4) Jenna needs to make an open top box from a 16 inch by 30 inch piece of cardboard by cutting out squares of equal size from the four corners and bending up the sides. But she's convinced that it can't be done. Since this now leaves Aidan to do it for her, what dimensions should they use to obtain a box with the largest possible volume?

