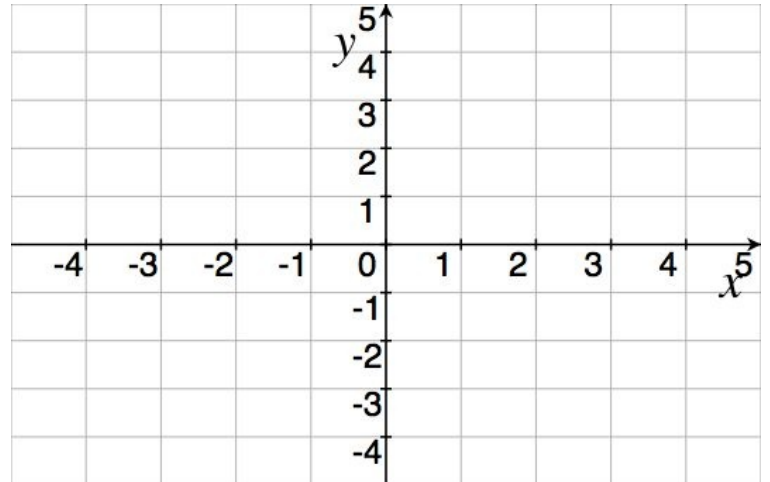


TMATH 124: Concept Check Day 15

Be sure to write down your ideas (numerically, algebraically, or geometrically) so that you can earn credit for your work!! To earn full marks for this you must attempt all problems.

1. Draw the graph of a function f so that:

- (a) f is continuous on $[0, 5]$
- (b) f has a local max when $x = 3$
- (c) $f'(3) = 0$
- (d) $f'(-3)$ is not defined.



2. Find the critical points of m where $m(x) = x^3 - 9x^2 - 48x - 5$.

3. Consider the problem discussed in one of the video's for the day: "Find the dimensions of a rectangle with area 1000 m^2 , whose perimeter is as small as possible." Write down the equation that needs to be optimized/minimized. (Be sure to define your variables!!)