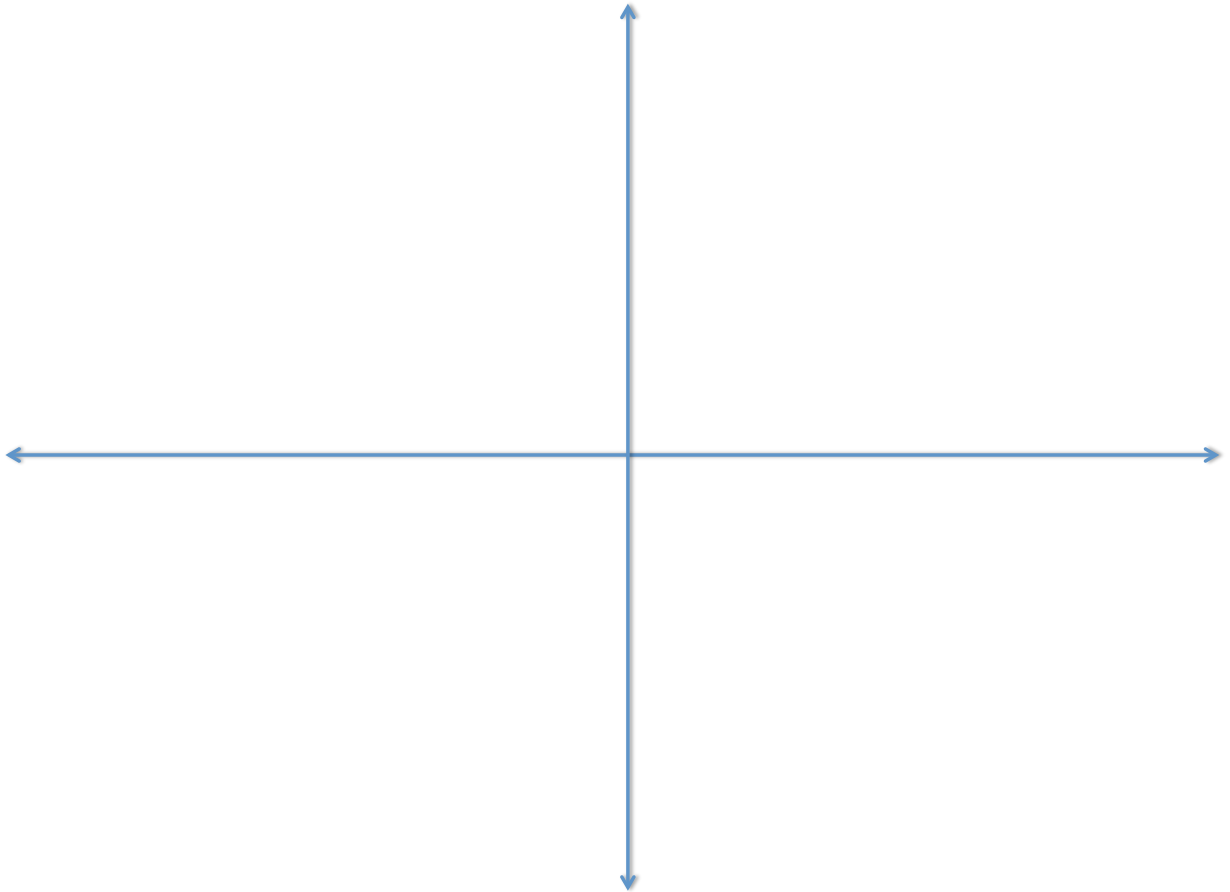# Quiz 5A - MTH 1410

Name: _____

1) (3 points) Graph a *continuous* function f with the following properties:

- $f(0) = 0$
- $f'(x) > 0$ on $(-\infty, -3), (-3, -1)$ and $(0, \infty)$ $\qquad\qquad f'(x) < 0$ on (-1, 0)
- $f''(x) > 0$ on $(-\infty, -4), (-3, -1)$ and $(-1, \infty)$ $\qquad\qquad f''(x) < 0$ on (-4, -3)

2) (4 points) A ladder 15 feet long rests against a vertical wall, and the bottom edge slides away from the wall at a constant rate of $\frac{1}{4}$ ft/sec. How fast is the top of the ladder sliding down the wall when the bottom of the ladder is 12 feet from the wall?

3) (3 points) Use calculus to find the absolute maximum and minimum of $f(x) = 3x^{2/3} - \frac{6}{5}x^{5/3}$ on the interval $[-1, 2]$.