

Name: \_\_\_\_\_

**Quiz 13**, section 4.3

1. (5 pts) Let  $f(x) = \frac{1}{3}x^3 - 4x^2 + 2$ . Find the intervals where  $f$  is increasing/decreasing and the intervals where it is concave up and concave down (CUP/CAP).

2. (5 pts) Sketch the graph of a function for which:  $f'(x) < 0$  on  $(-2, 3)$ ,  $f'(x) > 0$  on  $(-\infty, -2) \cup (3, \infty)$ ,  $f''(x) < 0$  on  $(-\infty, -1) \cup (4, \infty)$  and  $f''(x) > 0$  on  $(-1, 4)$ .