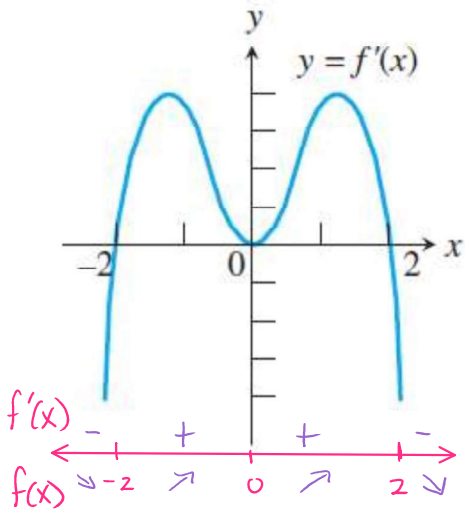


Do Now:

For the given graph of $f'(x)$ answer the following questions. Then, sketch a possible graph of $f(x)$.

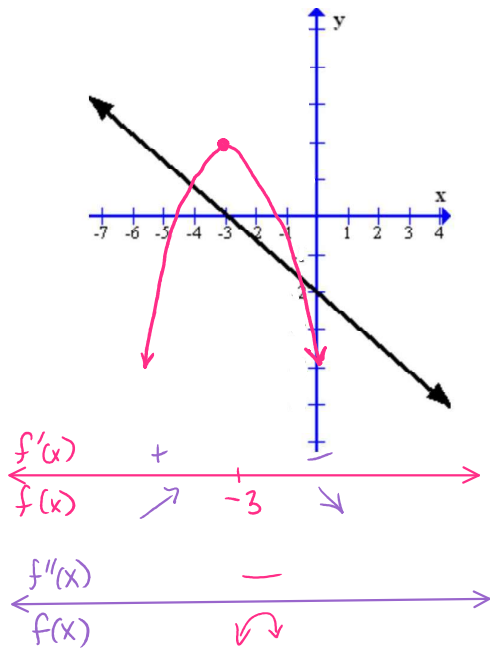


- a) intervals on which $f(x)$ is increasing $(-2, 0) \cup (0, 2)$ $f'(x) > 0$
- b) intervals on which $f(x)$ is decreasing $(-\infty, -2) \cup (2, \infty)$ $f'(x) < 0$
- c) relative maximum of function at $x =$ 2 $f'(x) > 0 \rightarrow f'(x) < 0$
- d) relative minimum of function at $x =$ -2 $f'(x) < 0 \rightarrow f'(x) > 0$
- e) intervals on which $f(x)$ is concave up $(-\infty, -1) \cup (0, 1)$
 $f'(x)$ incr, $f''(x) > 0$
- f) intervals on which $f(x)$ is concave down $(-1, 0) \cup (1, \infty)$
 $f'(x)$ decr, $f''(x) < 0$
- g) points of inflection for $f(x)$ at $x =$ $\approx -1, 0, 1$
Extrema on $f'(x)$, $f''(x)$ changes sign

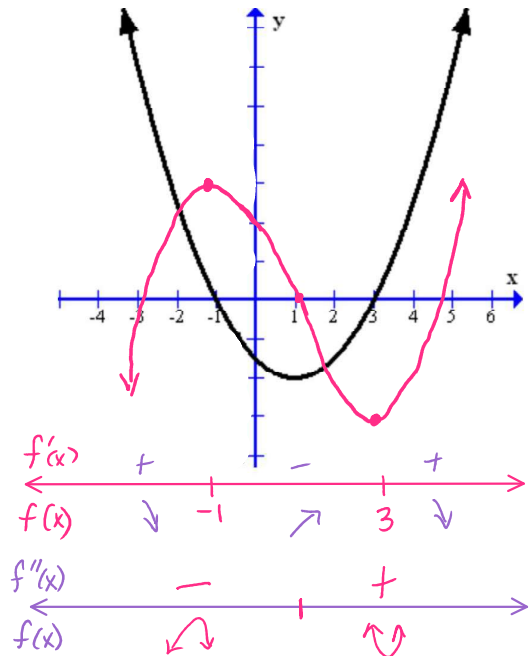
Class Work:

Using the graph of $f'(x)$, analyze the graph of the continuous function $f(x)$. Then, sketch a possible graph of $f(x)$.

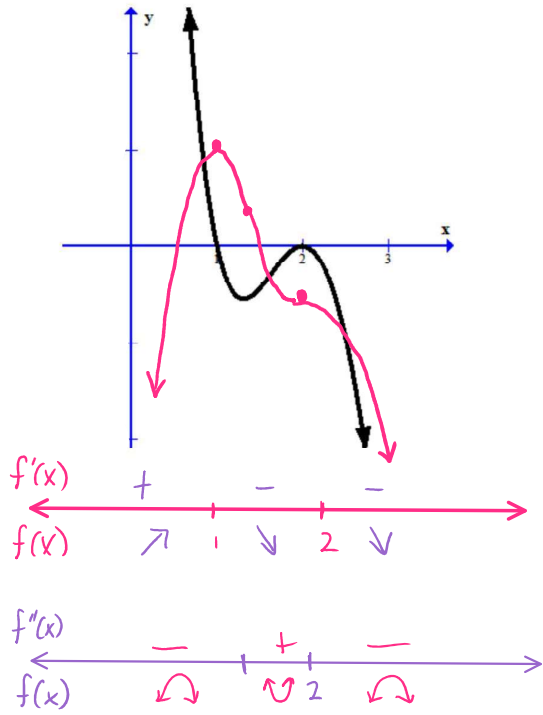
a.



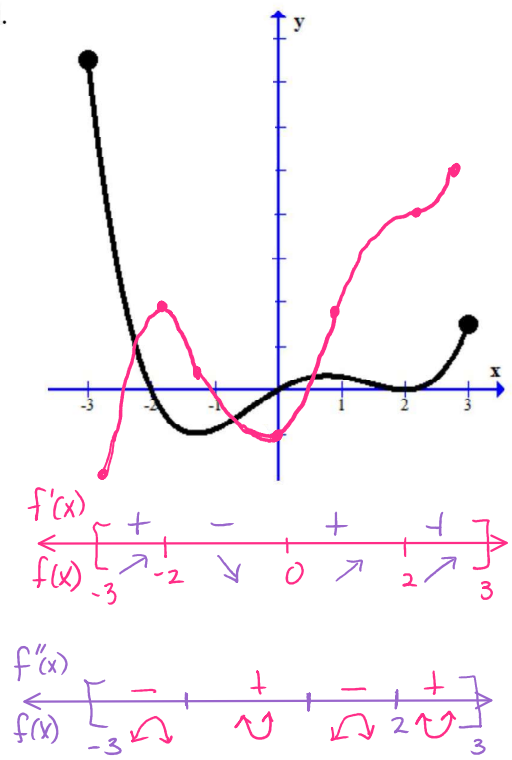
b.



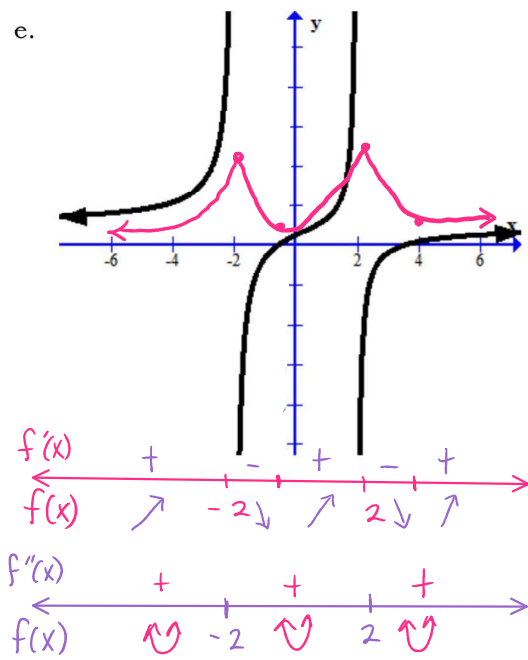
c.



d.



e.



f.

