

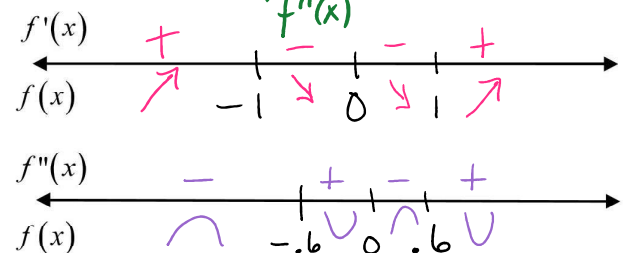
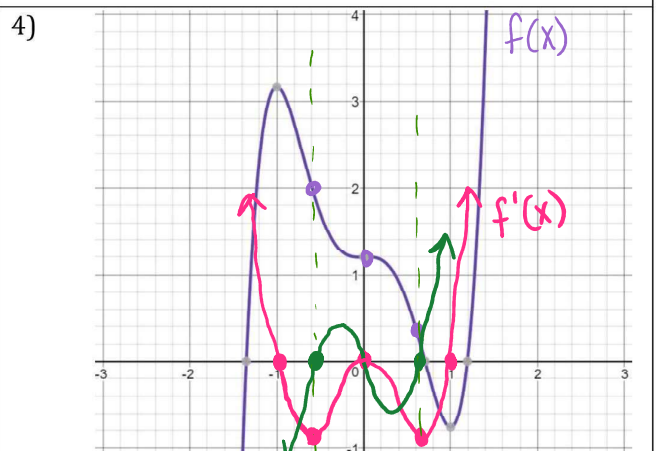
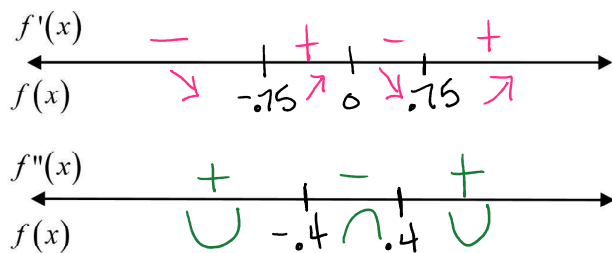
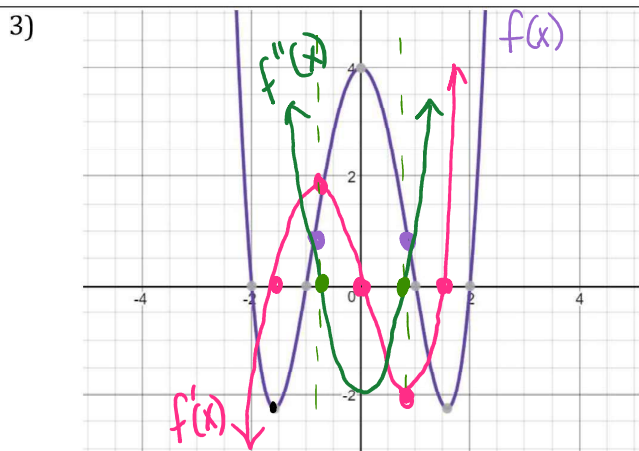
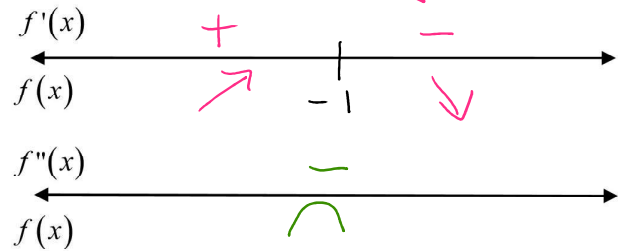
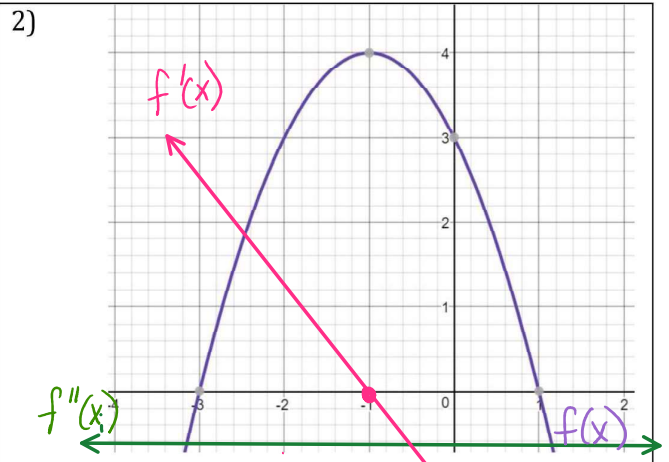
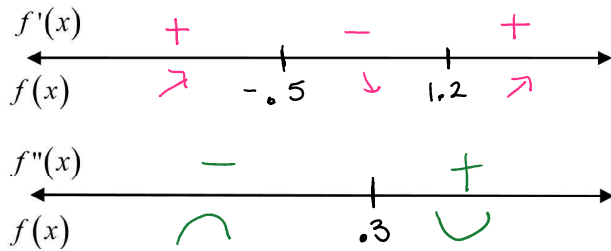
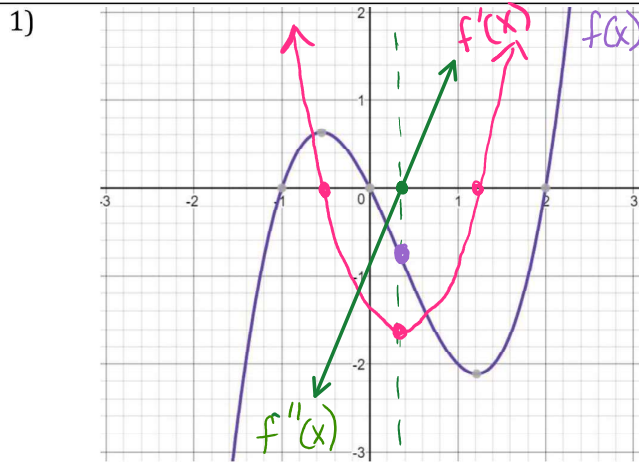
Name Answer Key

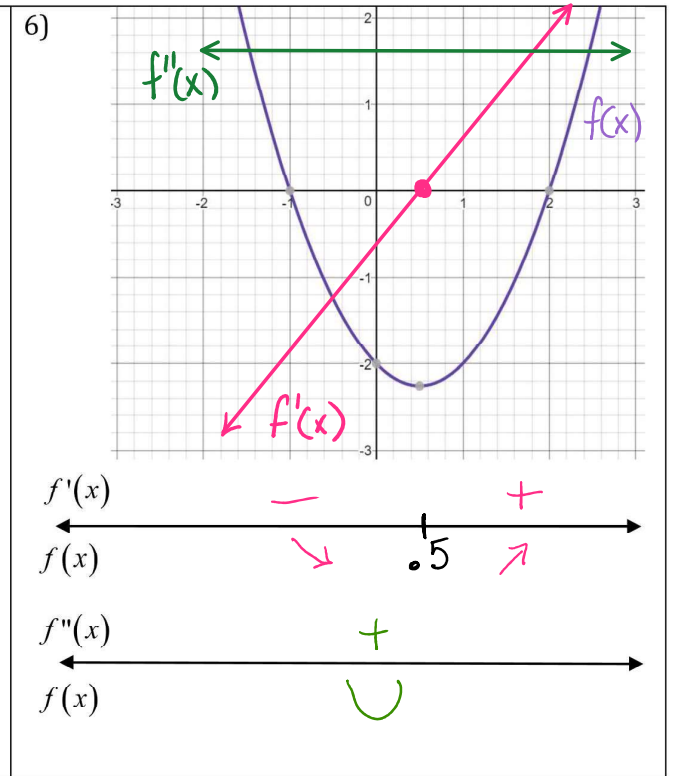
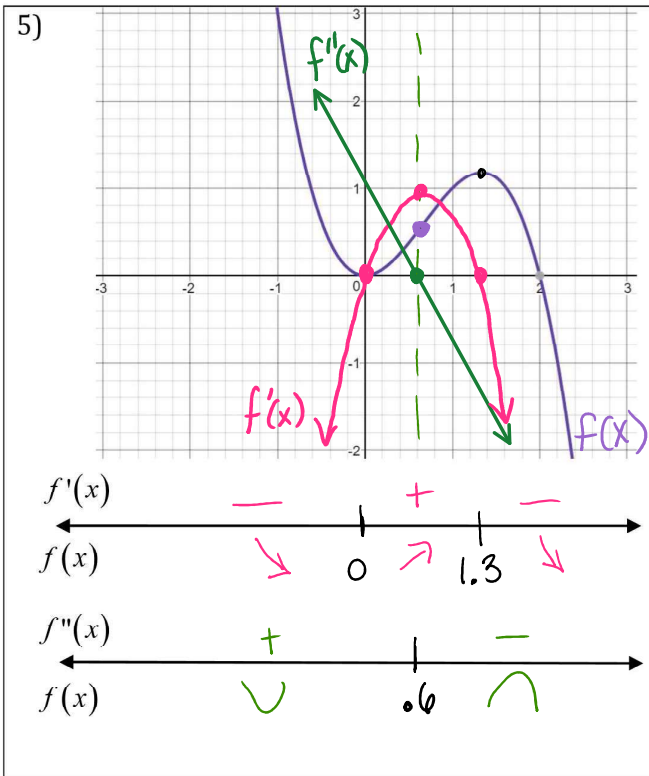
Date _____

Calc I H - 3.4 Graphing - day 3

Period _____

Given the graph of $f(x)$ sketch the graph of $f'(x)$ and $f''(x)$ on the same axis.

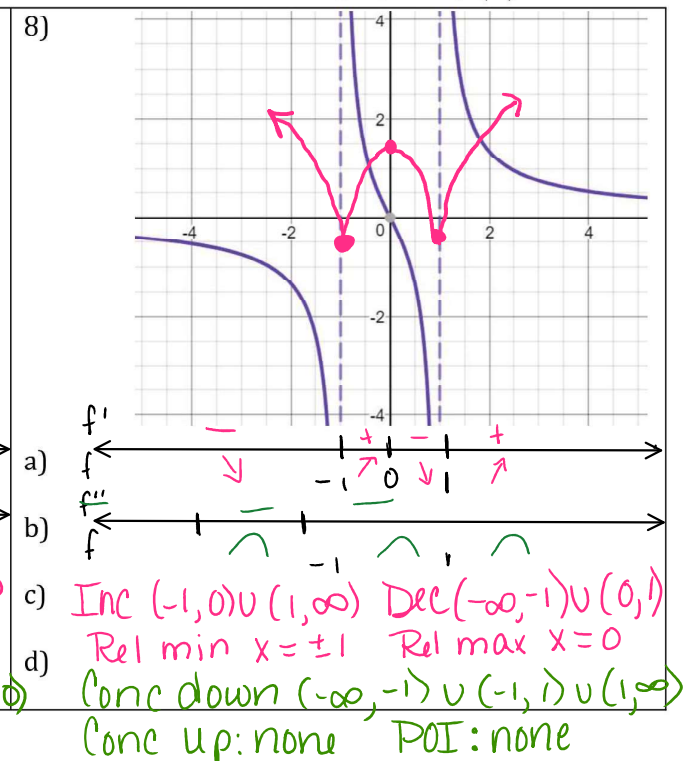
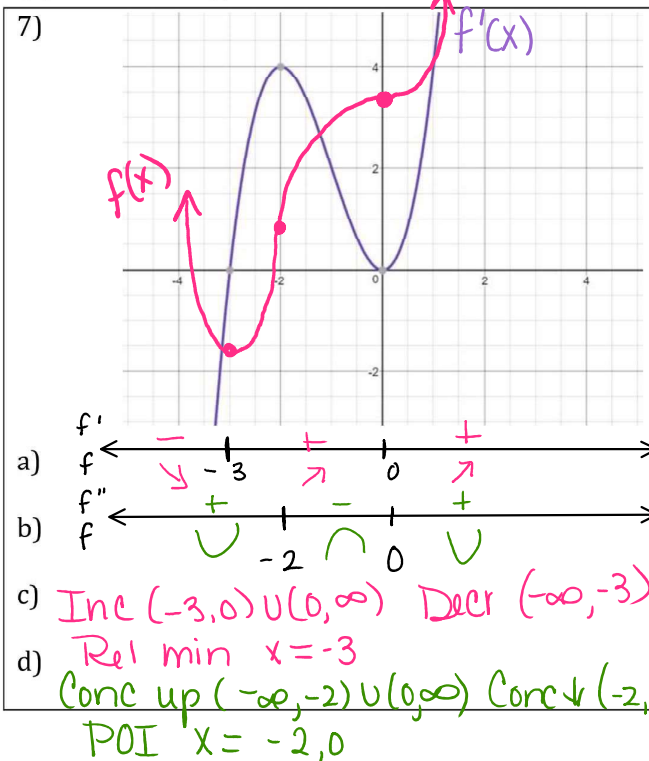




Given the graph of $f'(x)$ determine where the graph of $f(x)$ is: Note: $f(x)$ is continuous on $(-\infty, \infty)$

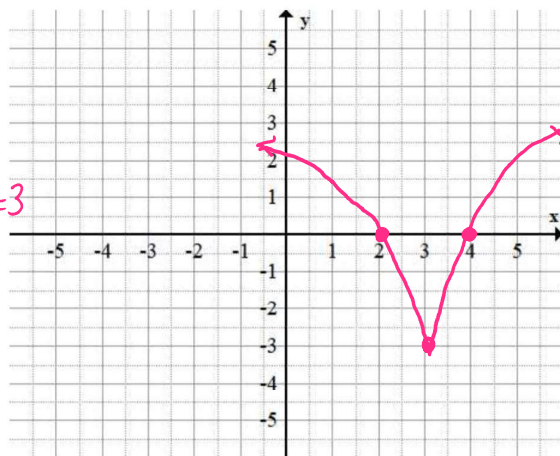
- (a) is increasing/decreasing
- (b) has relative extrema (x-coordinate only)
- (c) has points of inflection (x-coordinate only)
- (d) is concave up/down

Then, sketch a graph of $f(x)$.

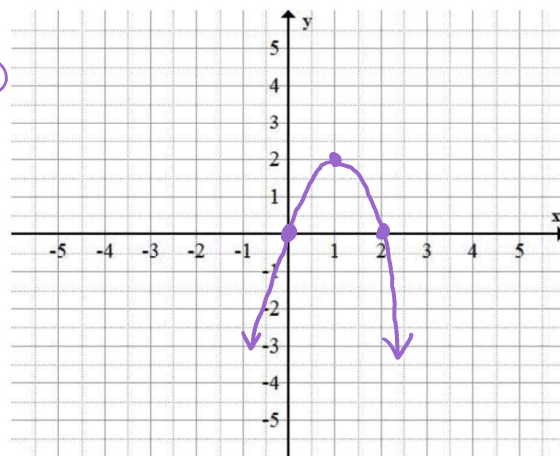


Sketch the graph of a function with the following characteristics.

- 9) $f(2) = f(4) = 0$ $(2,0), (4,0)$
 $f(3)$ is defined
 $f'(x) < 0$ when $x < 3$ *decr $(-\infty, 3)$*
 $f'(3)$ does not exist *Non diff at $x=3$*
 $f'(x) > 0$ when $x > 3$ *incr $(3, \infty)$*
 $f''(x) < 0, x \neq 3$ *Conc down*



- 10) $f(0) = f(2) = 0$ $(0,0), (2,0)$
 $f'(x) > 0$ when $x < 1$ *incr $(-\infty, 1)$*
 $f'(1) = 0$ *max*
 $f'(x) < 0$ when $x > 1$ *decr $(1, \infty)$*
 $f''(x) < 0$ *Conc down*



- 11) $f(0) = f(2) = 0$ $(0,0), (2,0)$
 $f'(x) < 0$ when $x < 1$ *decr $(-\infty, 1)$*
 $f'(1) = 0$ *min*
 $f'(x) > 0$ when $x > 1$ *incr $(1, \infty)$*
 $f''(x) > 0$ *Conc up*

