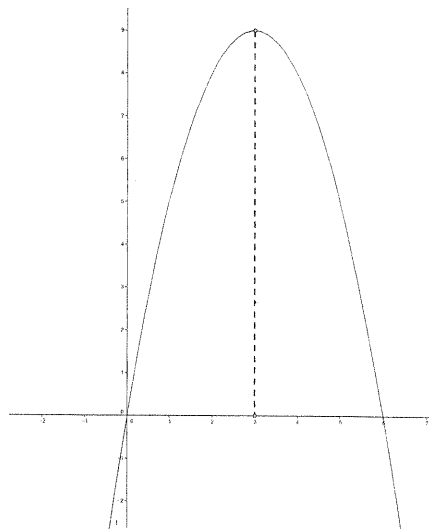**1.** (7pts) The graph below is the graph of the DERIVATIVE $f'(x)$ of a function $y = f(x)$

[NOTE: The graph above is of the derivative f' of f. The questions below refer to f, not to f'.]

a) Determine the intervals where f is increasing and where f is decreasing.

Increasing $(0,6)$

Decreasing $(-\infty, 0) \cup (6, \infty)$

b) Determine the intervals where f is concave up and where f is concave down.

Concave up $(-\infty, 3)$ Concave down $(3, \infty)$

c) Find the x values of all local maxima and minima of f (State whether each is a local maximum or local minimum.).

Local Min at $x = 0$ Local Max at $x = 6$

d) Find the x values of all inflection points of f.

Inflection point when $x = 3$

2. (3pts) List all the asymptotes of $f(x) = \dfrac{2x(x+1)}{5(x-1)(x+2)}$

Vertical asymptotes $x = 1$ $x = -2$

Horizontal $y = \dfrac{2}{5}$