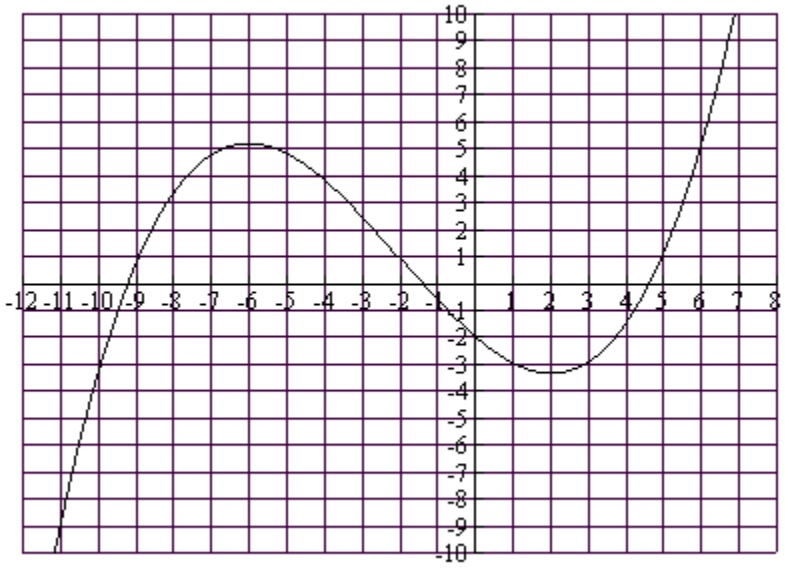
MA 160 Dr. Katiraie The Derivative as a Function
Section 2.4

I. Graphing the Derivative

1. The graph of the function f is shown below.

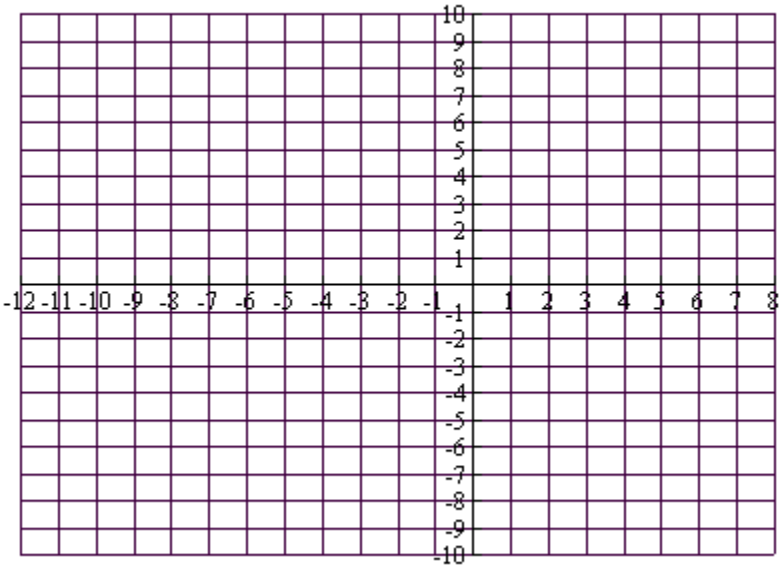


(a) Draw tangent lines and graphically estimate

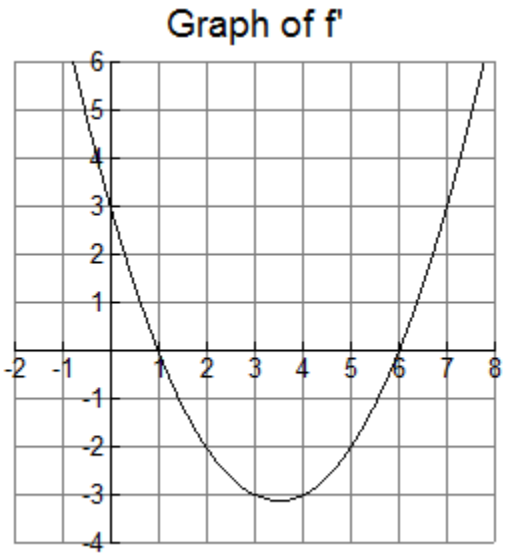
(i) $f'(-8)$ (ii) $f'(-6)$ (iii) $f'(-3)$

(iv) $f'(0)$ (v) $f'(2)$ (vi) $f'(4)$

(b) Sketch a possible graph for $f'(x)$.



II. Using the Graph of the Derivative



The graph shown is the graph of f', the ***derivative*** of a function f. Note that the graph of f is not shown.

If the function f is defined for all x, use this graph to answer the following questions.

1. On what interval(s) is the function f increasing?

2. On what interval(s) is the function f decreasing?

3. At what value(s) of x, if any, does f have a local maximum?

4. At what value(s) of x, if any, does f have a local minimum?

Suppose it is also known that f goes through the point (0,0). Based on all of the above information, sketch a possible graph of the function f.