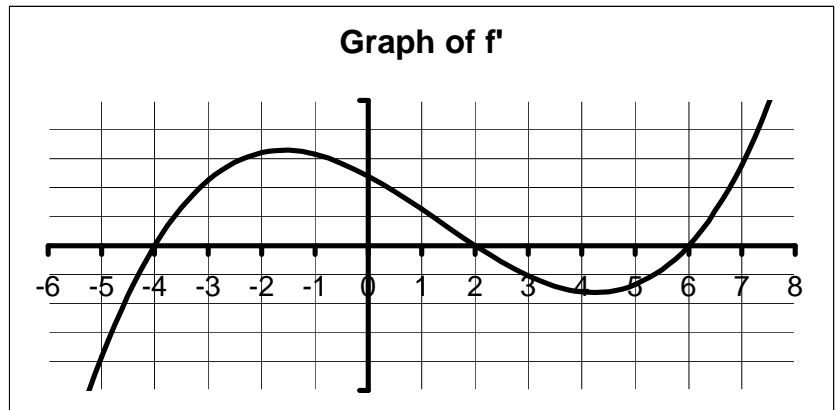


Name \_\_\_\_\_

The graph to the right 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?
5. On what interval(s) is the function  $f$  concave upward? *You'll need to think harder for #5 – 7.*
6. On what interval(s) is the function  $f$  concave downward?
7. At what value(s) of  $x$  does  $f$  have an inflection point?

8. 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  $f$ .

