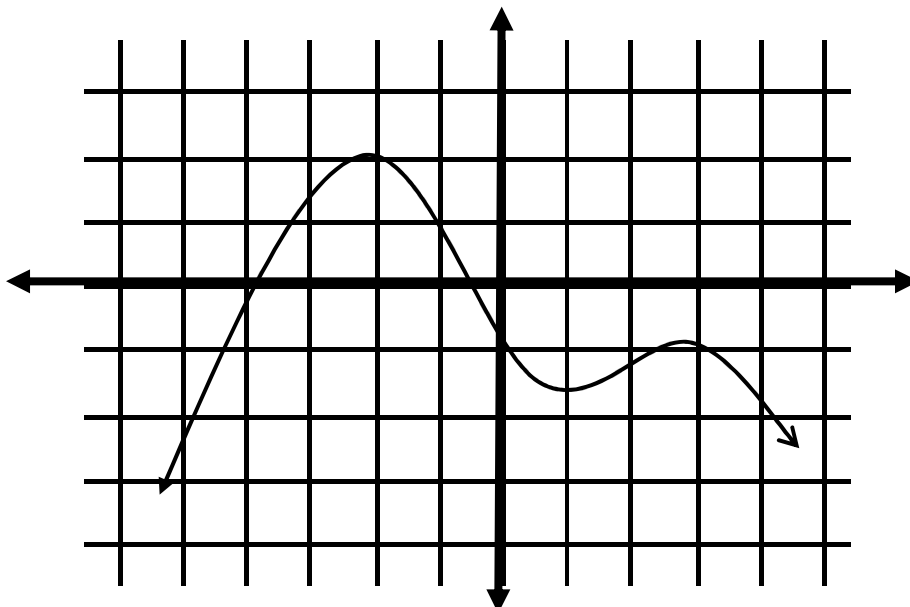


Calculus One – Graphing the derivative of a function.

1) Given the graph of $f(x)$ below, complete the chart, estimating the derivative (slope of the tangent line) at the given values of x . It is sometimes helpful to use your pencil as a tangent line. After completing the chart, graph the ordered pairs in the chart. Connecting the points with a smooth curve will graph the derivative of $f(x)$.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
$f'(x)$											



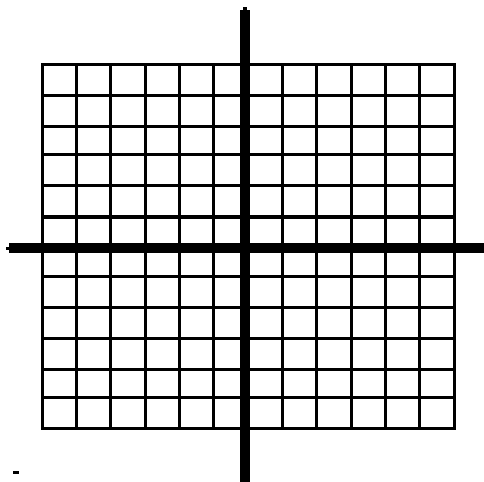
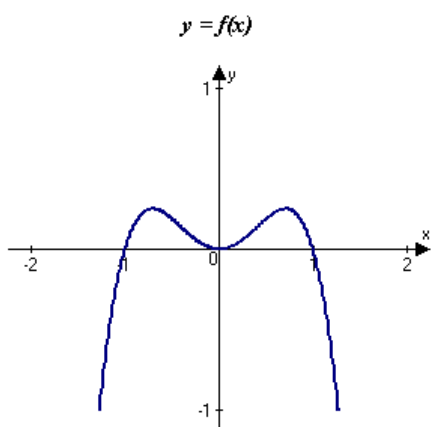
What do you notice about the y -value of the graph of the derivative when the function reaches a relative maximum?

What do you notice about the y -value of the graph of the derivative when the function reaches a relative minimum?

What do you notice about the y -values of the graph of the derivative when the function is increasing?

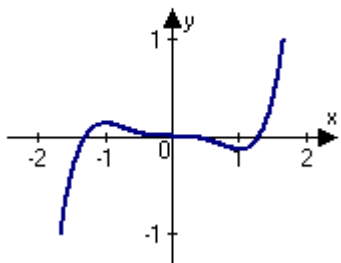
What do you notice about the y -values of the graph of the derivative when the function is decreasing?

2. The graph of f is shown in the figure. Select the graph of the derivative from the graphs below. A blank grid has been provided for you to work on.



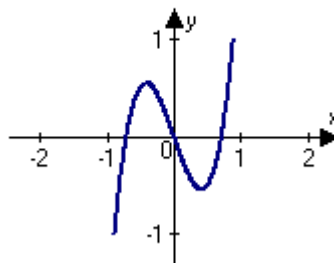
A)

$y = f'(x)$



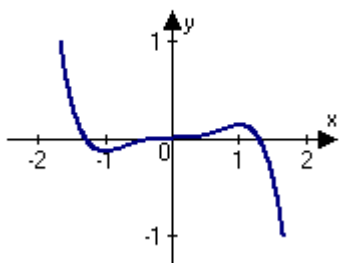
B)

$y = f'(x)$



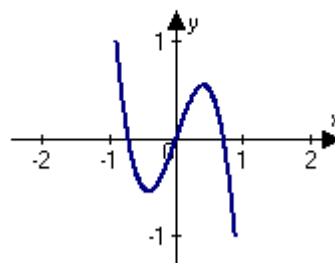
C)

$y = f'(x)$



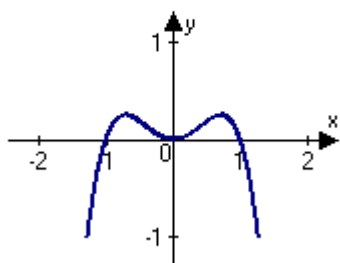
D)

$y = f'(x)$

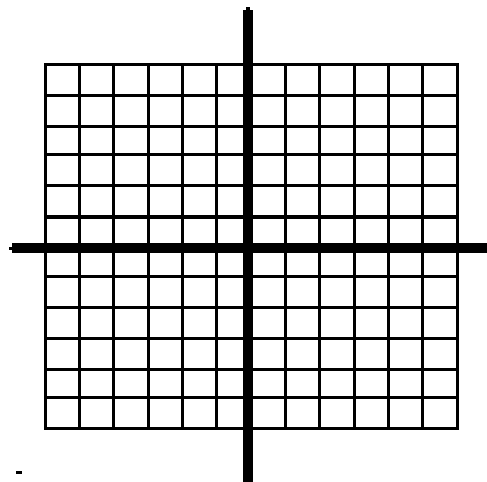
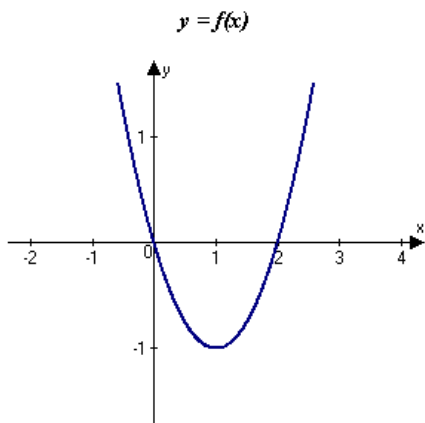


$y = f'(x)$

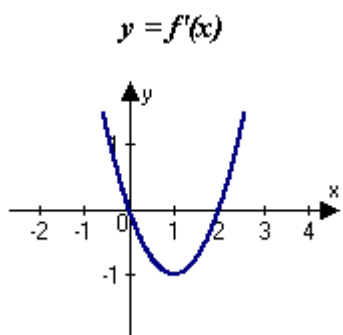
E)



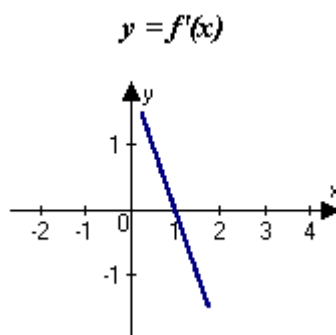
3. The graph of f is shown in the figure. Select the graph of the derivative from the graphs below. A blank grid has been provided for you to work on.



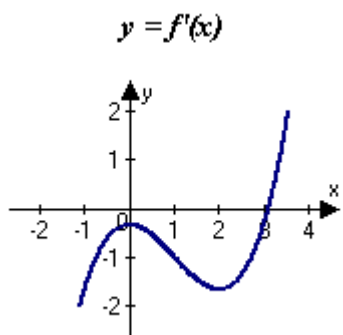
A)



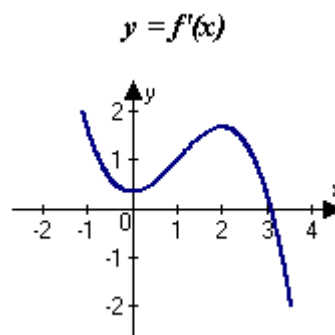
B)



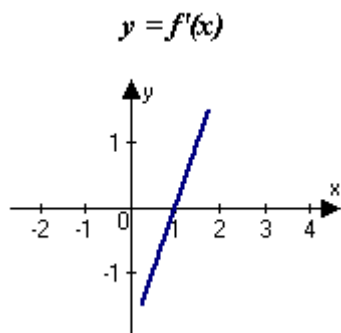
C)



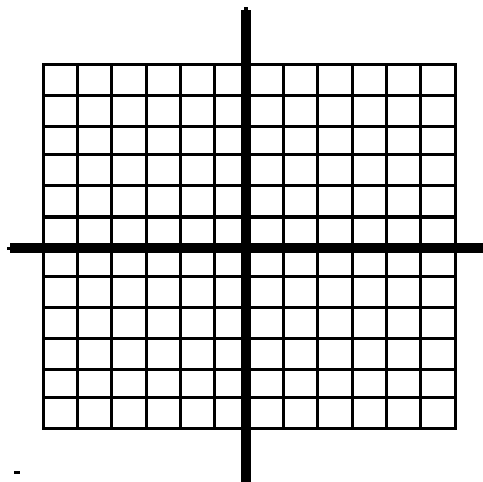
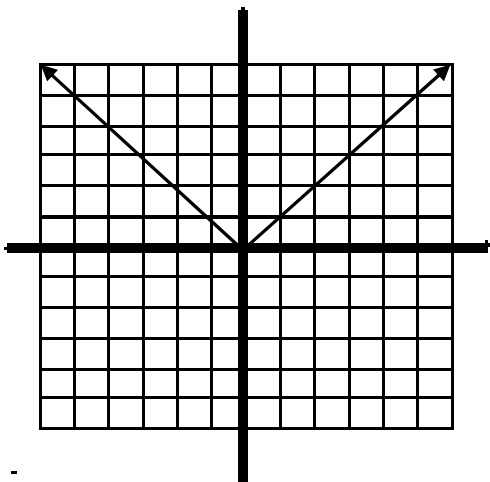
D)



E)



4. The graph of f is shown in the grid on the left. Sketch the derivative in the grid on the right.



The following web sites will allow you to practice graphing the derivative of a function. Follow the directions at the web site: http://www.joma.org/images/upload_library/4/vol4/kaskosz/derapp.html

And you can practice matching derivatives with their respective graphs with these on line puzzles. Double-Click on the red box for puzzle 1 – then you may have to open it from the status bar at the bottom of the screen. Work puzzle 1, then repeat for puzzle 2 and 3. <http://www.univie.ac.at/future.media/moe/galerie/diff1/diff1.html>

This web site gives you the steps to graph the derivative of a function on your graphing calculator. <http://mathbits.com/mathbits/tisection/Calculus/DerivativeGR.htm>

Homework: The attached worksheet

KEY: EKDGFJCLAIBH DFBCAE