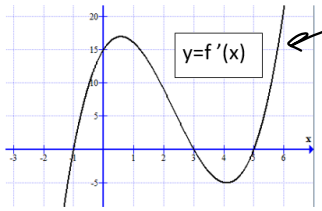
The graph below is the graph of $f'(x)$. Note that the graph of $f(x)$ is not shown. If the function $f(x)$ is defined for all x, use this graph to answer questions #5-6.



This is the derivative of f(x)

5. On what interval(s) is the function $f(x)$ increasing? $(-1,3)\cup(5,\infty)$ Where is graph above the x-axis

6. On what interval(s) is the function $f(x)$ decreasing? $(-\infty,-1)\cup(3,5)$ Where is graph below x-axis

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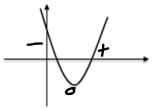
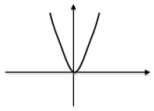
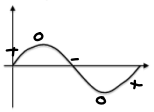
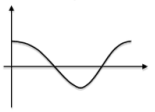
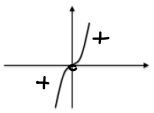
Match the Functions (I, II, III) with their derivatives (A, B, C)

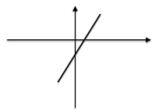
C I. 

A. 

B II. 

B. 

A III. 

C. 

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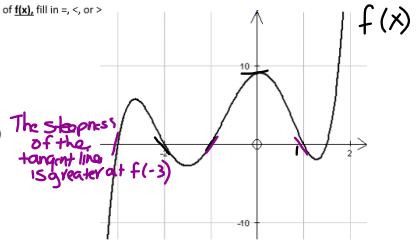
Using the accompanying graph of f(x), fill in =, <, or >

a. $f'(-2) < 0$
b. $f'(-1) > 0$
c. $f'(0) = 0$
d. $f(1.5) = 0$
e. $f'(-3) > f'(-1)$
f. $f(1) > f'(1)$
g. $f''(1) > f'(1)$
h. $f'(1) < f'(0)$



The steepness of the tangent line is greater at f(-3)

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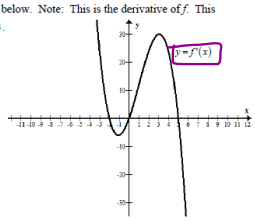
1. Use the graph of $y=f'(x)$ to answer the questions below. Note: This is the derivative of f. This graph has horizontal tangents at $x=-1$ and $x=3$.



a) On what interval(s), if any, is $f(x)$ increasing? $(-\infty,-2)\cup(0,5)$

b) On what interval(s), if any, is $f(x)$ decreasing? $(-2,0)\cup(5,\infty)$

c) On what interval(s), if any, is $f(x)$ concave up? $(-1,3)$

d) On what interval(s), if any, is $f(x)$ concave down? $(-\infty,-1)\cup(3,\infty)$

e) For what value(s) of x, if any, does the graph of $f(x)$ have a point of inflection? $x=-1,3$

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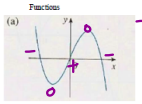
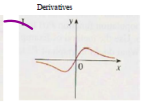
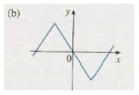
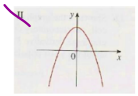
5. Match each function to the graph that best represents its derivative. Write your answer on the line provided.

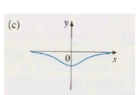
Functions Derivatives

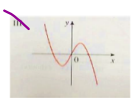
II 

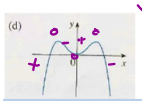


IV 



I 



III 

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