

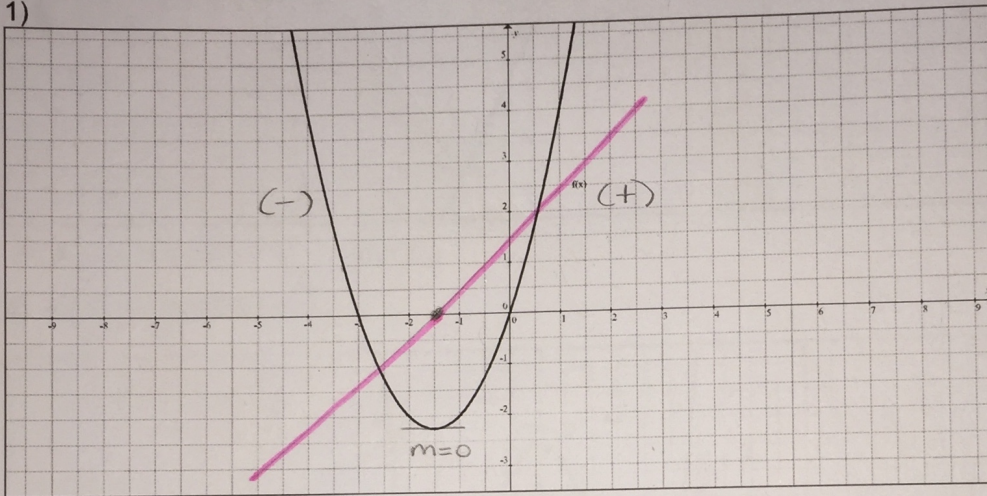
Graphing 1<sup>st</sup> & 2<sup>nd</sup> derivative  
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I. Given the graph of  $f(x)$ , sketch the graph of  $f'(x)$  on the same Cartesian plane (in a distinct color)

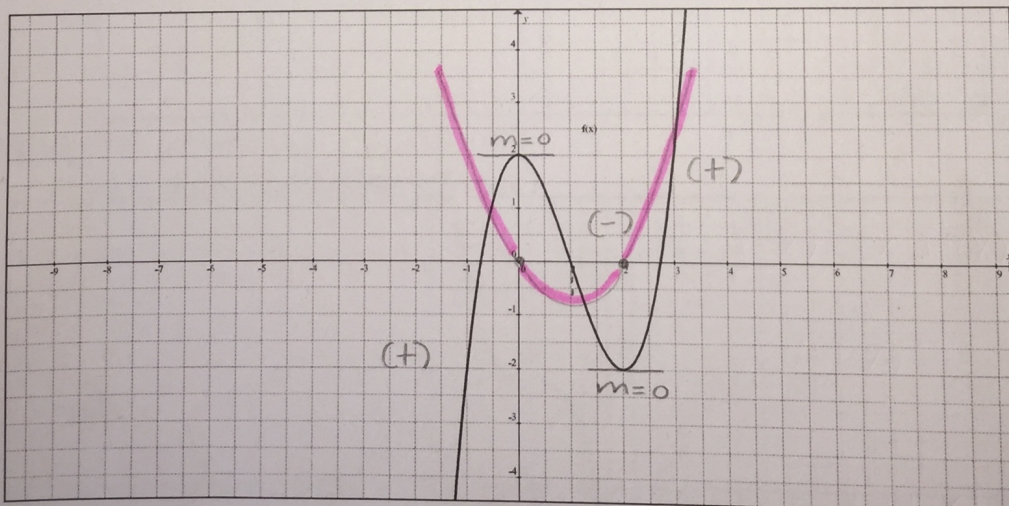
1)



$f(x)$  is increasing  $(-\frac{3}{2}, \infty)$

$f(x)$  is decreasing  $(-\infty, -\frac{3}{2})$

2)

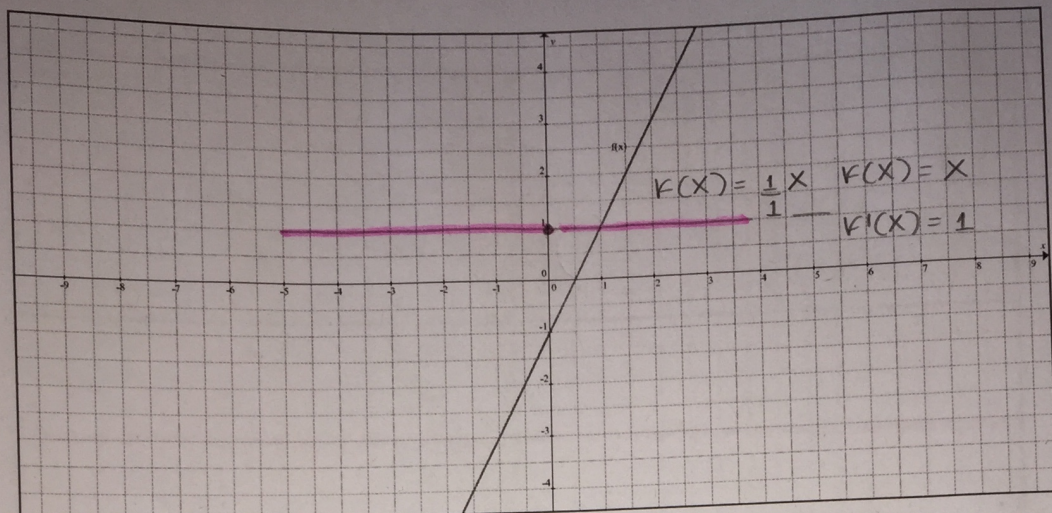


$f(x)$  is increasing  $(-\infty, 0) (2, \infty)$

$f(x)$  is decreasing  $(0, 2)$

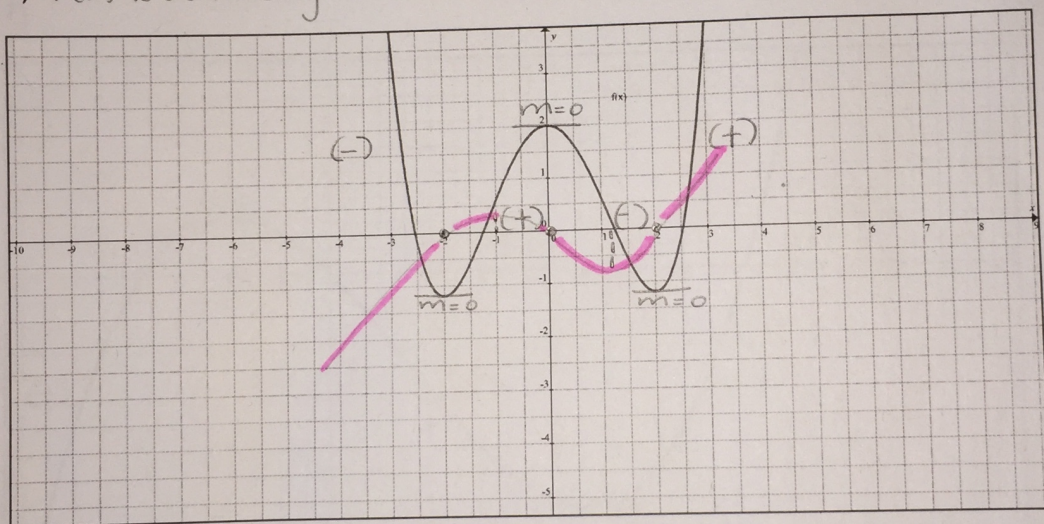


3)

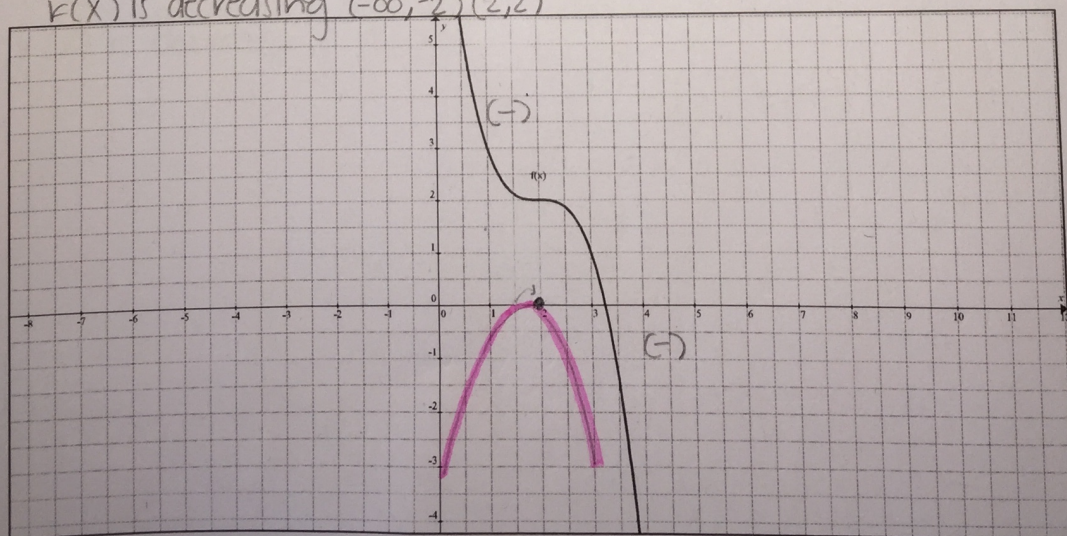


$f(x)$  is increasing  $(-\infty, \infty)$

4)  $f(x)$  is decreasing



5)  $f(x)$  is increasing  $(-2, 0) (2, \infty)$   
 $f(x)$  is decreasing  $(-\infty, -2) (0, 2)$



$f(x)$  is increasing  
 $f(x)$  is decreasing  $(\infty, -\infty)$