

Math M119

Section 2.2

Sketch the graphs of the first and second derivatives of the functions given below. Be sure that your sketches are consistent with the important features of the original functions.

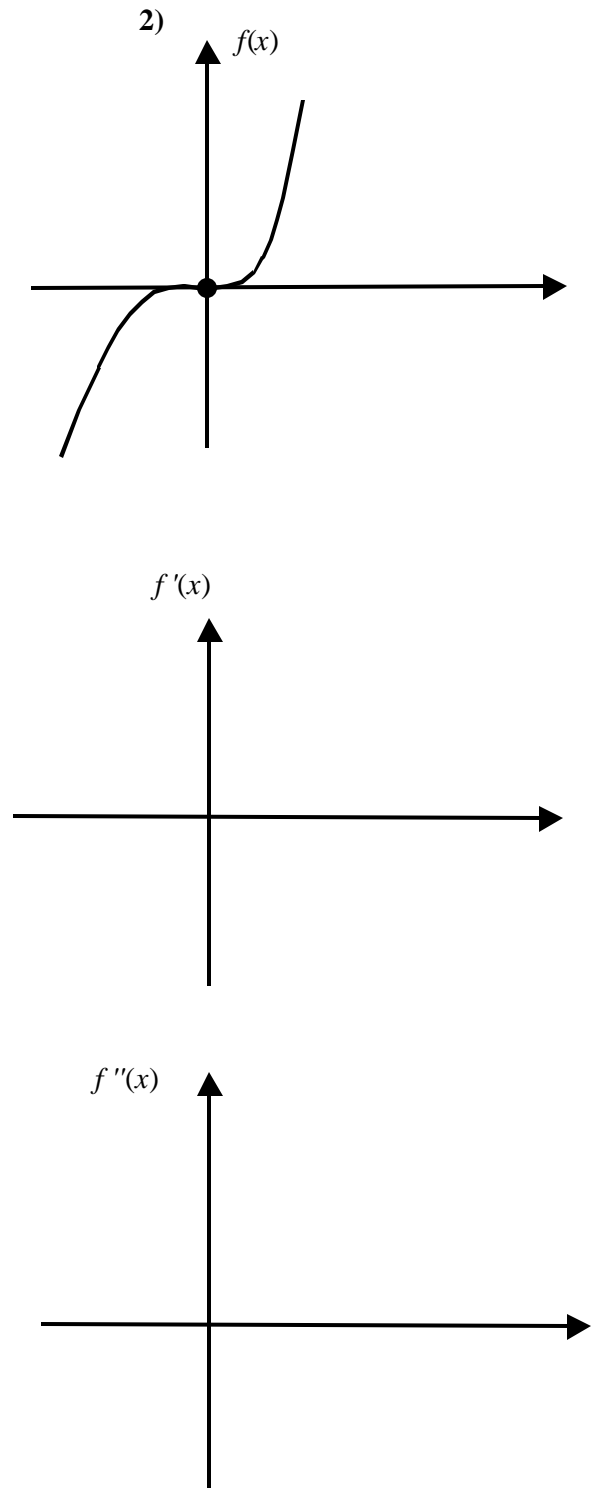
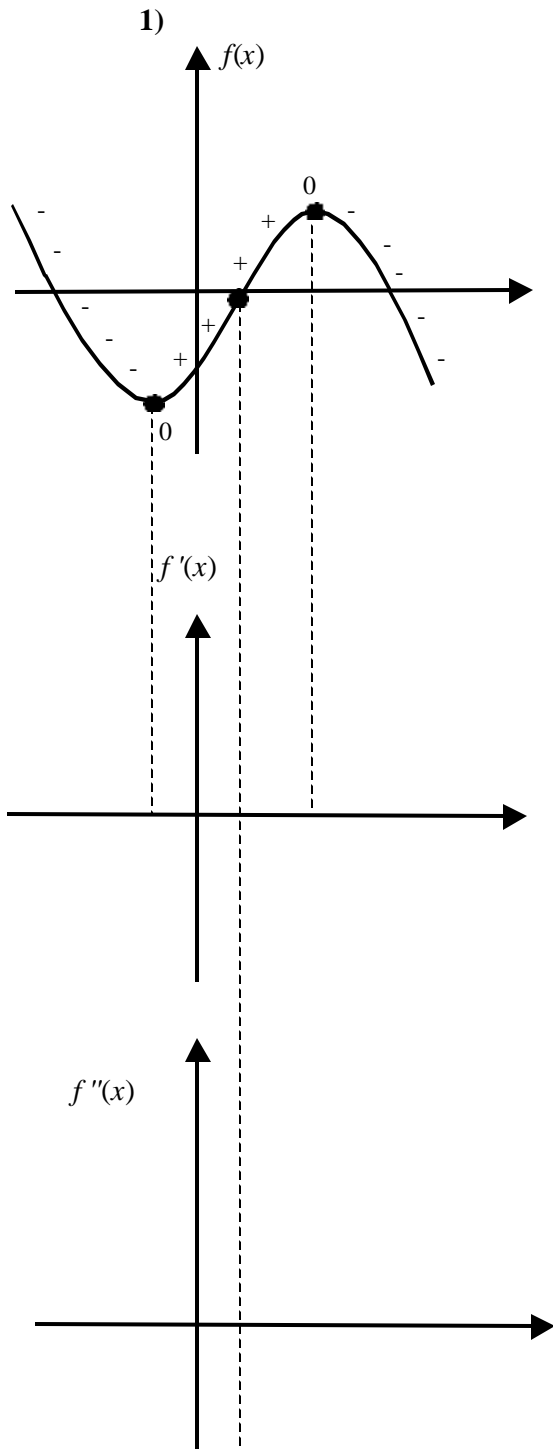
Note:

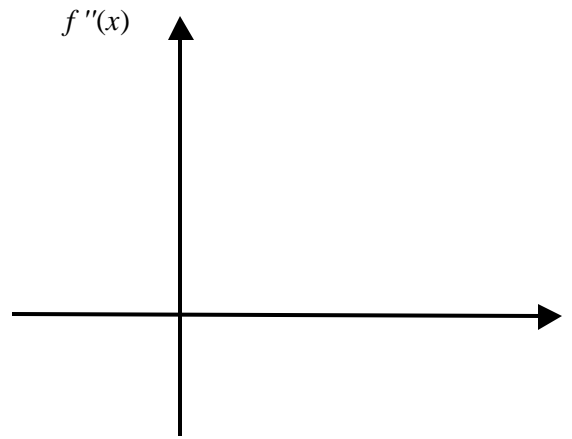
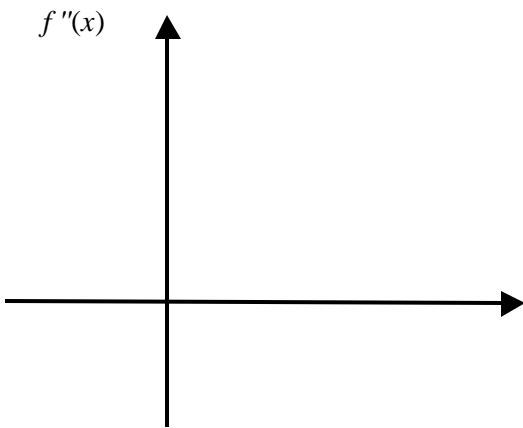
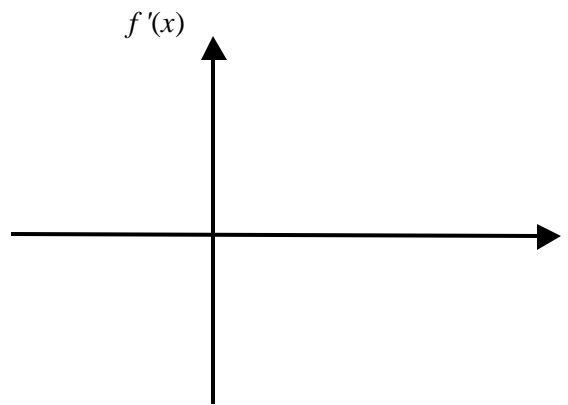
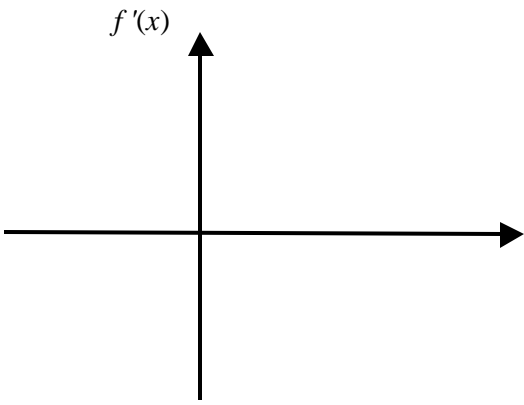
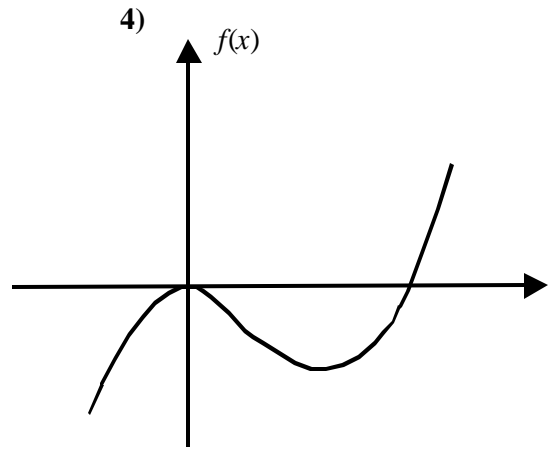
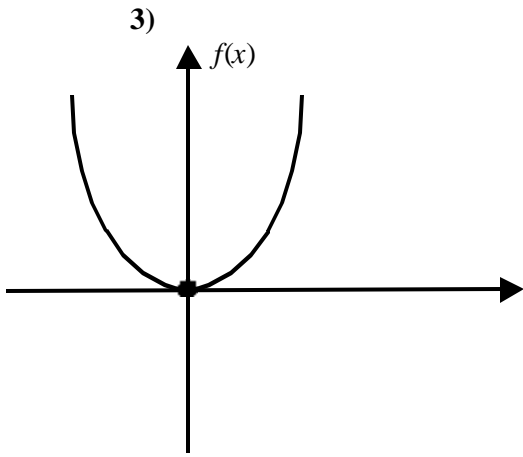
Rising line: + , **positive** slope, $f'(x) > 0$

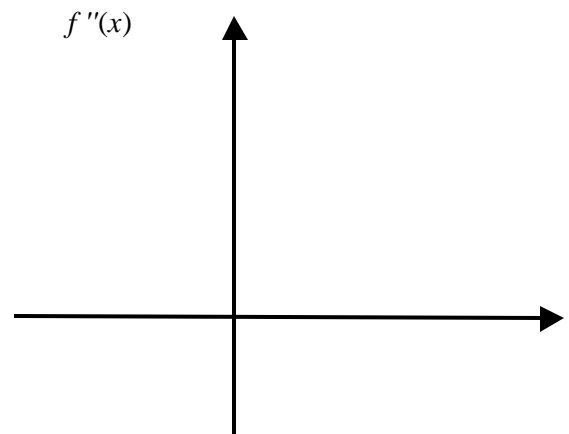
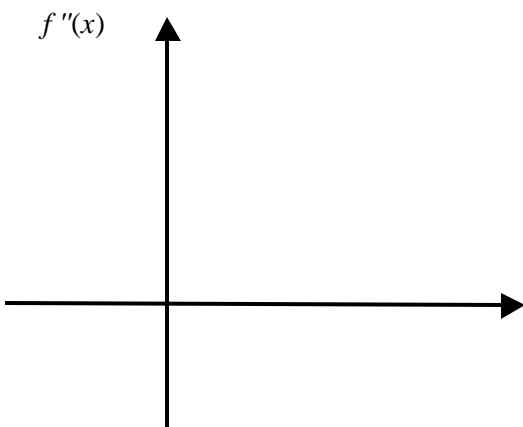
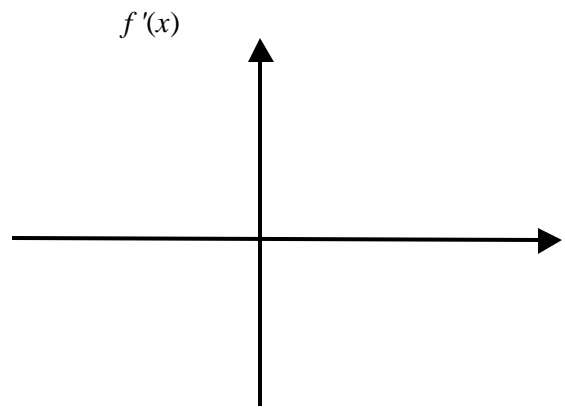
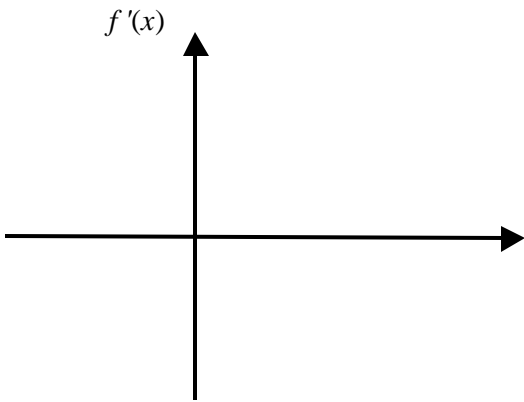
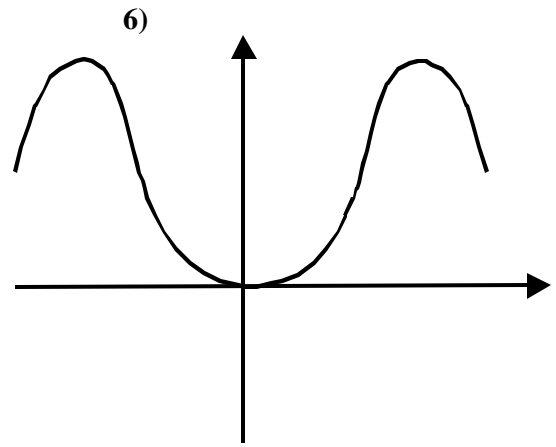
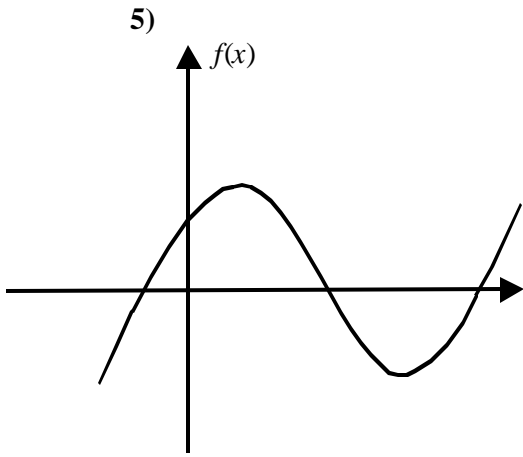
Falling line: - , **negative** slope, $f'(x) < 0$

Horizontal tangent line : 0, **zero** slope. $f'(x) = 0$.

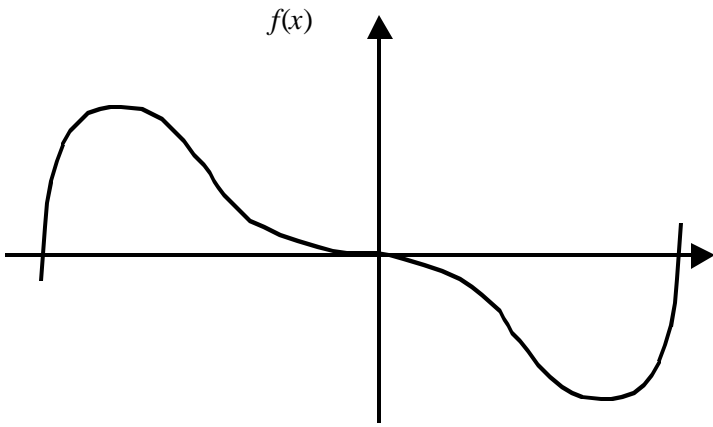
Inflection point: **steepest** slope , $f'(x) = \text{steepest}$, $f''(x) = 0$



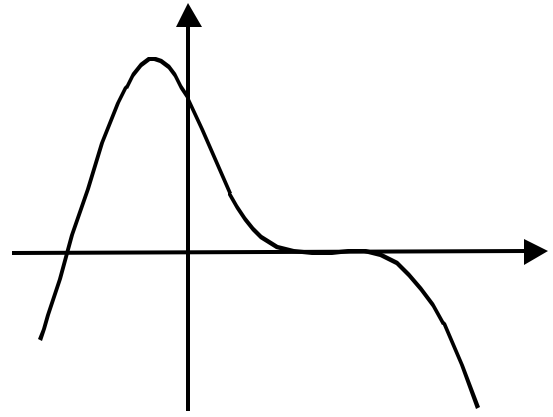




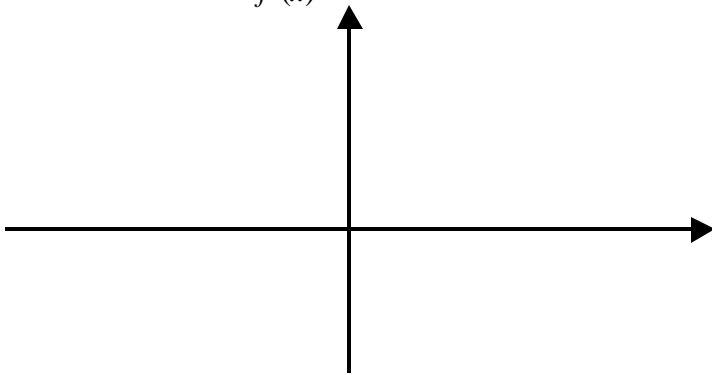
7)



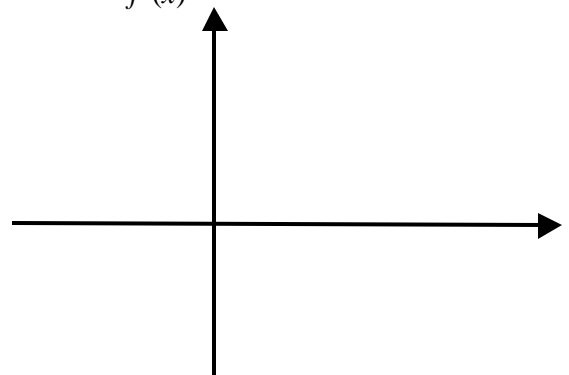
8)



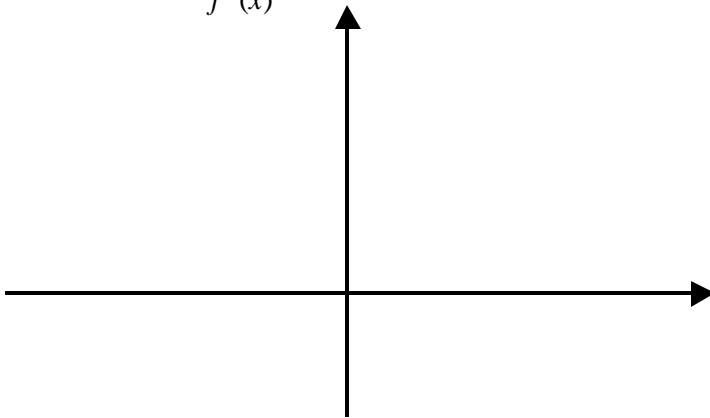
$f'(x)$



$f'(x)$



$f''(x)$



$f''(x)$

