

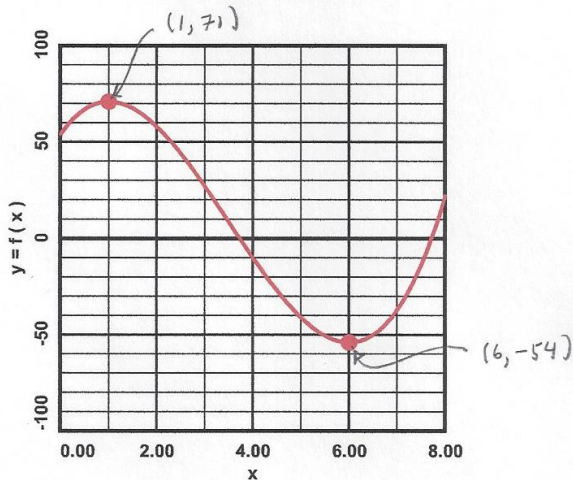
PRE-AP ALGEBRA 2

3B.6 CLASSWORK

For problems 1 and 2:

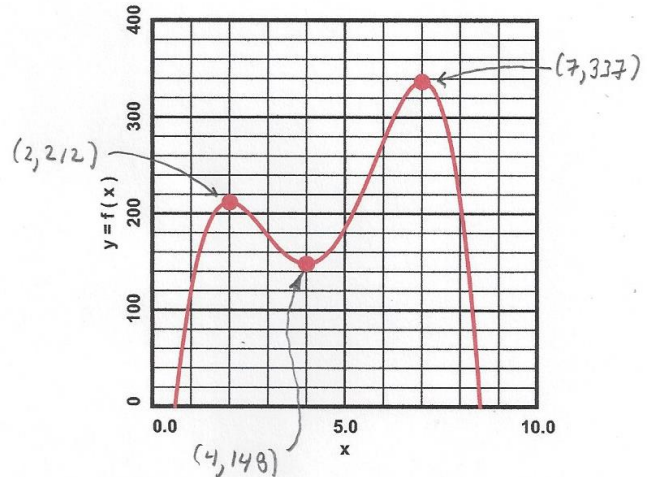
- Graph the indicated function  $y = f(x)$  on the grid provided. With your calculator, make your window look like the grid.
- Use 2nd calc minimum and 2nd calc maximum with your calculator to find the coordinates of the local maxima and minima of  $y = f(x)$ . Graph the maxima and minima on the grid, and label their coordinates.
- State the portions of the domain where  $y = f(x)$  is increasing and decreasing.

1)  $f(x) = 2x^3 - 21x^2 + 36x + 54$



inc.:  $-\infty < x < 1$  and  $6 < x < \infty$   
 dec.:  $1 < x < 6$

2)  $f(x) = -3x^4 + 52x^3 - 300x^2 + 672x - 300$



inc.:  $-\infty < x < 2$  and  $4 < x < 7$   
 dec.:  $2 < x < 4$  and  $7 < x < \infty$