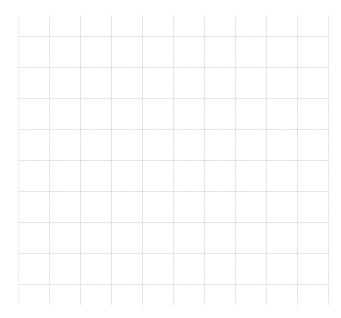
Consider the function  $f(x) = \frac{1}{4}x^2(x^2 - 12)$ 

1. Use a graphing calculator and graph f, f', and f'' on the same grid.



- 2. On which intervals is the function positive? (exact values)
- 3. On which intervals is the function increasing? (exact values)
- 4. On which intervals is the function concave upwards? (exact values)

5. The x-coordinates of the local extrema of *f*' corresponds to the x-coordinates of which points on the graph of *f*.

Name : \_\_\_\_\_