

4.4 Second Derivative

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 .