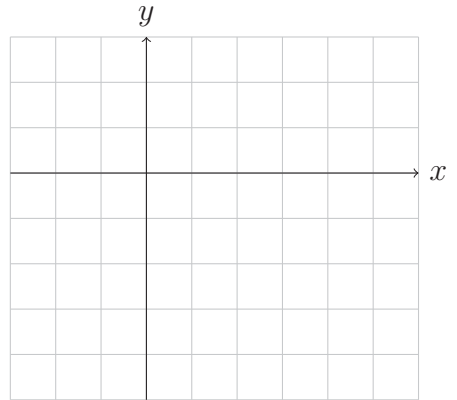


Math 251 WS 0, Review of Sections 4.2 and 4.3

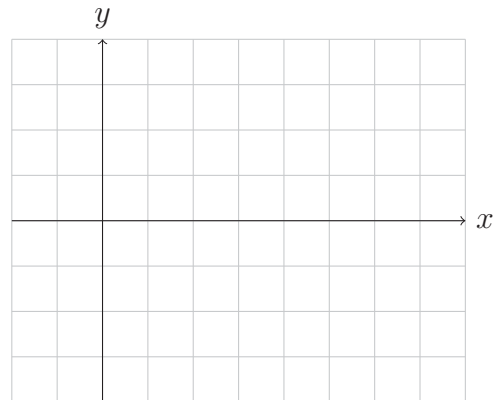
1. Find where the function $f(x) = 3x^4 - 4x^3 - 12x^2 + 5$ is increasing and where it is decreasing. Then determine the local minimum and maximum values.

2. Find where the function $g(x) = \frac{6}{5}x^5 + \frac{15}{4}x^4 - 12x^3 + 2$ is increasing/decreasing, then find any local minimums and maximums, and any intercepts.

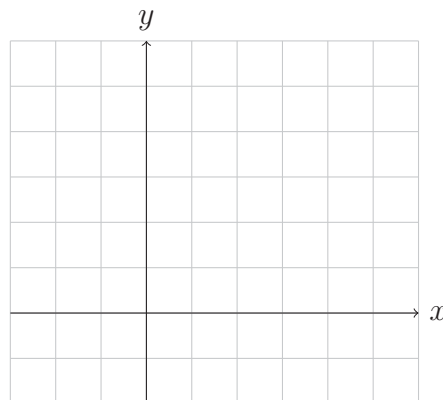
3. Determine the intercepts, minimums and maximums, inflection points, concave up/down intervals, and increasing/decreasing intervals for the function $f(x) = x^4 - 4x^3$. Then sketch a graph of f .



4. Determine the intercepts, minimums and maximums, inflection points, concave up/down intervals, and increasing/decreasing intervals for the function $g(x) = x^{2/3}(6 - x)^{1/3}$. Then sketch a graph of g .



5. Determine the intercepts, minimums and maximums, inflection points, concave up/down intervals, and increasing/decreasing intervals for the function $h(x) = e^{1/x}$. Then sketch a graph of h .



6. Determine any local and absolute maximums and minimums for $f(x) = 3x^4 - 16x^3 + 18x^2$ if its domain is restricted to $[-1,4]$.

7. Determine the absolute and local maximums and minimums of $f(x) = x - 2 \sin(x)$ on $[0, 2\pi]$.

8. Determine the absolute and local maximums and minimums of $f(x) = \ln(x^2 + x + 1)$ on $[-1, 1]$.