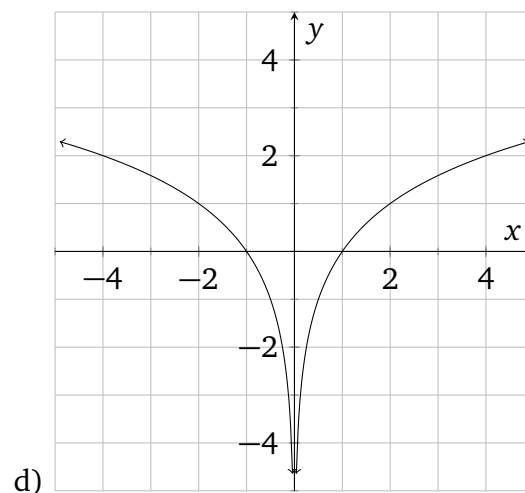
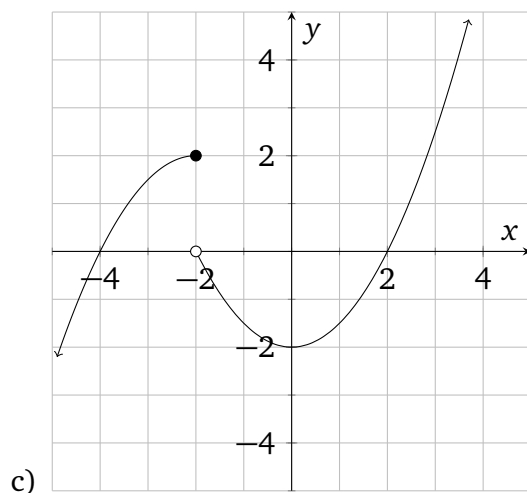
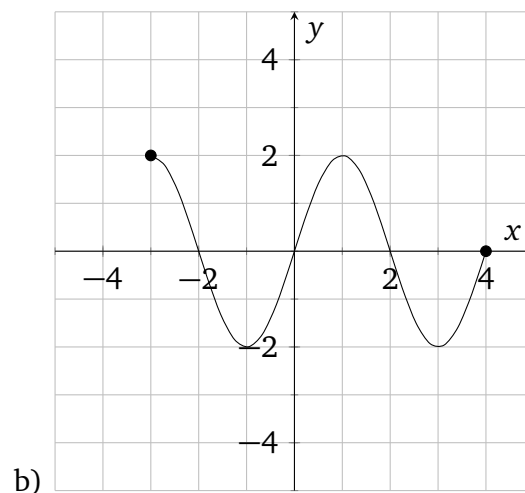
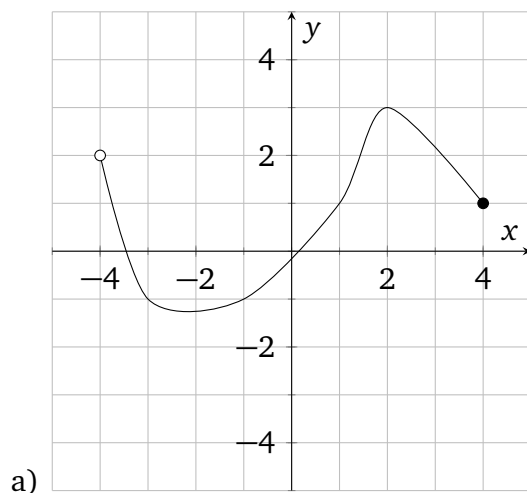


Increasing and Decreasing Intervals

1. For each function plotted, identify the interval(s) where it is increasing, the interval(s) where it is decreasing, all local maxima, all local minima, all absolute maxima, all absolute minima, and the range.



2. Use your graphing calculator to determine where each function is increasing, where it is decreasing, all local maxima, all local minima, all absolute maxima, all absolute minima, and the range. Sketch graphs here based on what you see in your calculator, and label coordinates of all important points.

a) $f(x) = x^3 - x + 2$

b) $f(x) = x^2 - x - 2|x|$

c) $f(x) = x^5 - x^3$

d) $f(x) = 0.25x^4 + 0.3x^3 - 0.9x^2 + 3$

3. The concentration C of a medication in the bloodstream t hours after being administered is modeled by the function

$$C(t) = -0.002t^4 + 0.039t^3 - 0.285t^2 + 0.766t + 0.085$$

When will the concentration be highest?