

Assignment # 2.
Due Friday, Jan. 29, 12:00

Problem 1. Find domain, intervals of monotonicity, intervals of convexity/concavity, points of local and global extrema, inflection points, asymptotes of the following functions. Then sketch the graphs.

a. $f(x) = \sqrt{x/(x-5)}$ **b.** $g(x) = (x^2-1)^{2/3}$ **c.** $h(x) = \frac{(x+1)^3}{(x-1)^2}$

Problem 2. Show that the equation $x^2 = x \sin x + \cos x$ has exactly two real roots.