

4.1 (Function properties) Exercises
PCHA 2021-22 / Dr. Kessner

Graph each of the functions below. Then determine the following properties of the function:

- domain and range
 - discontinuities (removable, jump, infinite)
 - intervals of increasing/decreasing
 - boundedness (above/below)
 - local/global extrema
 - odd/even symmetry
 - asymptotes (with limits)
 - end behavior (with limits)
1. $\sin(x), \cos(x), \tan(x), \csc(x), \sec(x), \cot(x)$.
 2. x, x^2, x^3, x^4
 3. $|x|, \frac{|x|}{x}$
 4. $\sqrt{x}, \sqrt[3]{x}$
 5. $\frac{1}{x}$
 6. $2^x, 10^x$