

## 4.1 Function Properties homework

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.  $2^x, 10^x$