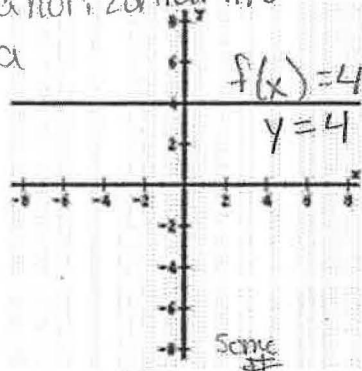


Unit 1

Parent Functions

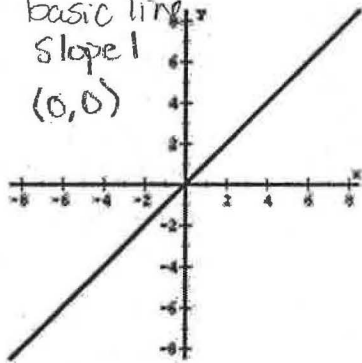
The set of basic functions you are responsible for knowing and working with in this course. We will add more to this list as the semester progresses.

always a horizontal line
 height a



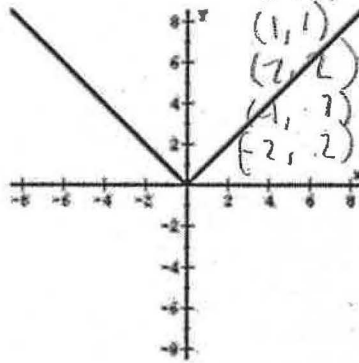
$f(x) = a$
Constant

basic line
 slope 1
 (0,0)



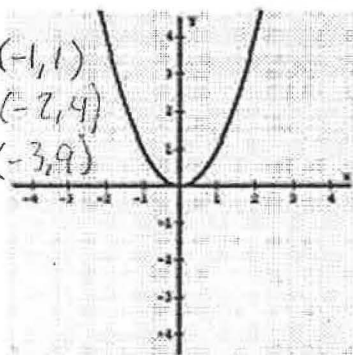
$f(x) = x$
Linear

(0,0)
 (1,1)
 (2,2)
 (1,1)
 (2,2)



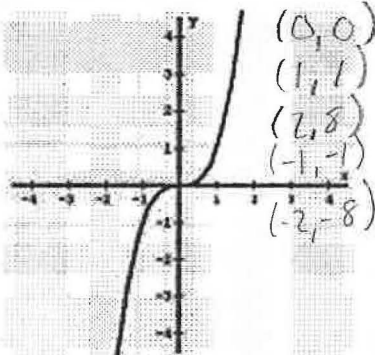
$f(x) = |x|$
Absolute Value

(0,0)
 (1,1) (-1,1)
 (2,4) (-2,4)
 (3,9) (-3,9)



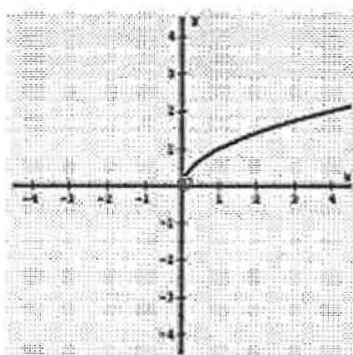
$f(x) = x^2$
Quadratic

(0,0)
 (1,1)
 (2,8)
 (-1,-1)
 (-2,-8)



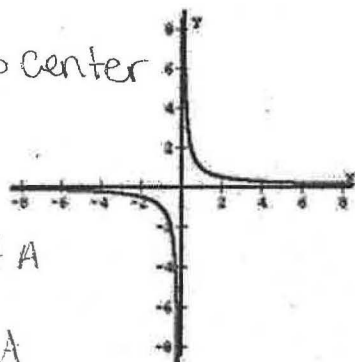
$f(x) = x^3$
Cubic

(0,0)
 (1,1)
 (4,2)
 (9,3)



$f(x) = \sqrt{x}$
Square Root

(0,0) as center
 (1,1)
 (-1,-1)



$f(x) = \frac{1}{x}$
Reciprocal

Example: Move a function up 2 units
 and Right 1 unit

y values increase 2

Keypts

x values increase 1

(0,0) $\xrightarrow{UP 2}$ (0,2) $\xrightarrow{R 1}$ (1,2)
 (1,1) \rightarrow (1,3) \rightarrow (2,3)
 (2,4) \rightarrow (2,6) \rightarrow (3,6)
 (-1,1) \rightarrow (-1,3) \rightarrow (0,3)