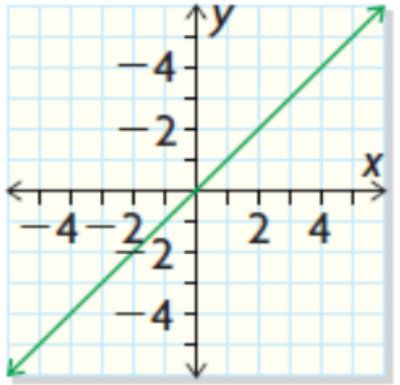
1.3 The Five Parent Functions

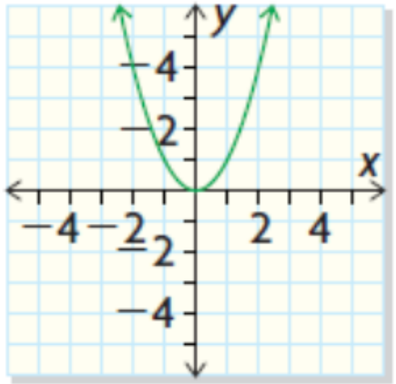
1.	$f(x) = x$	linear function	

$f(x) = 2x - 3$

x	$f(x)$
-2	-2
-1	-1
0	0
1	1
2	2

2. $f(x) = x^2$

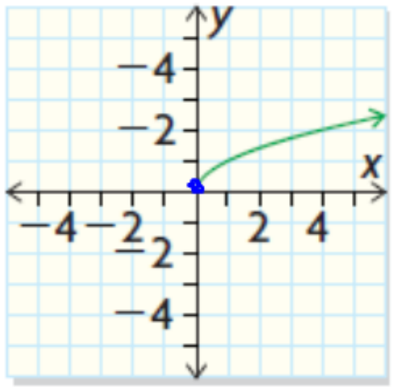
quadratic function



x	f(x)
−2	4
−1	1
0	0
1	1
2	4

3. $f(x) = \sqrt{x}$

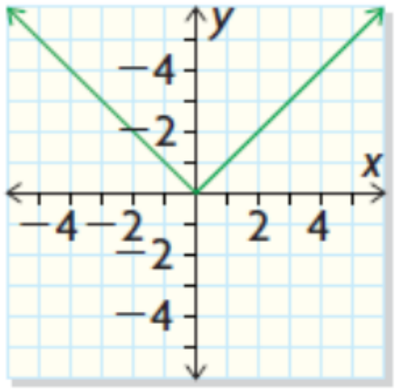
square root function



x	f(x)
0	0
1	1
4	2
9	3
16	4

4. $f(x) = |x|$

absolute value function



- the distance from x to zero, meaning all values are positive.

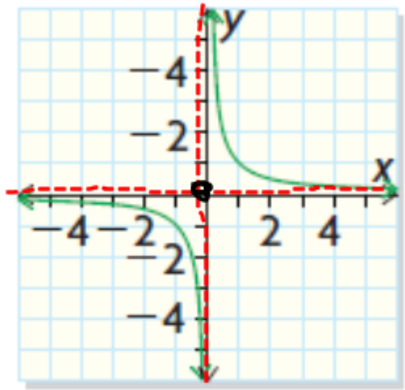
$|2| = 2$

$|-2| = 2$

x	f(x)
−2	2
−1	1
0	0
1	1
2	2

5. $f(x) = \frac{1}{x}$

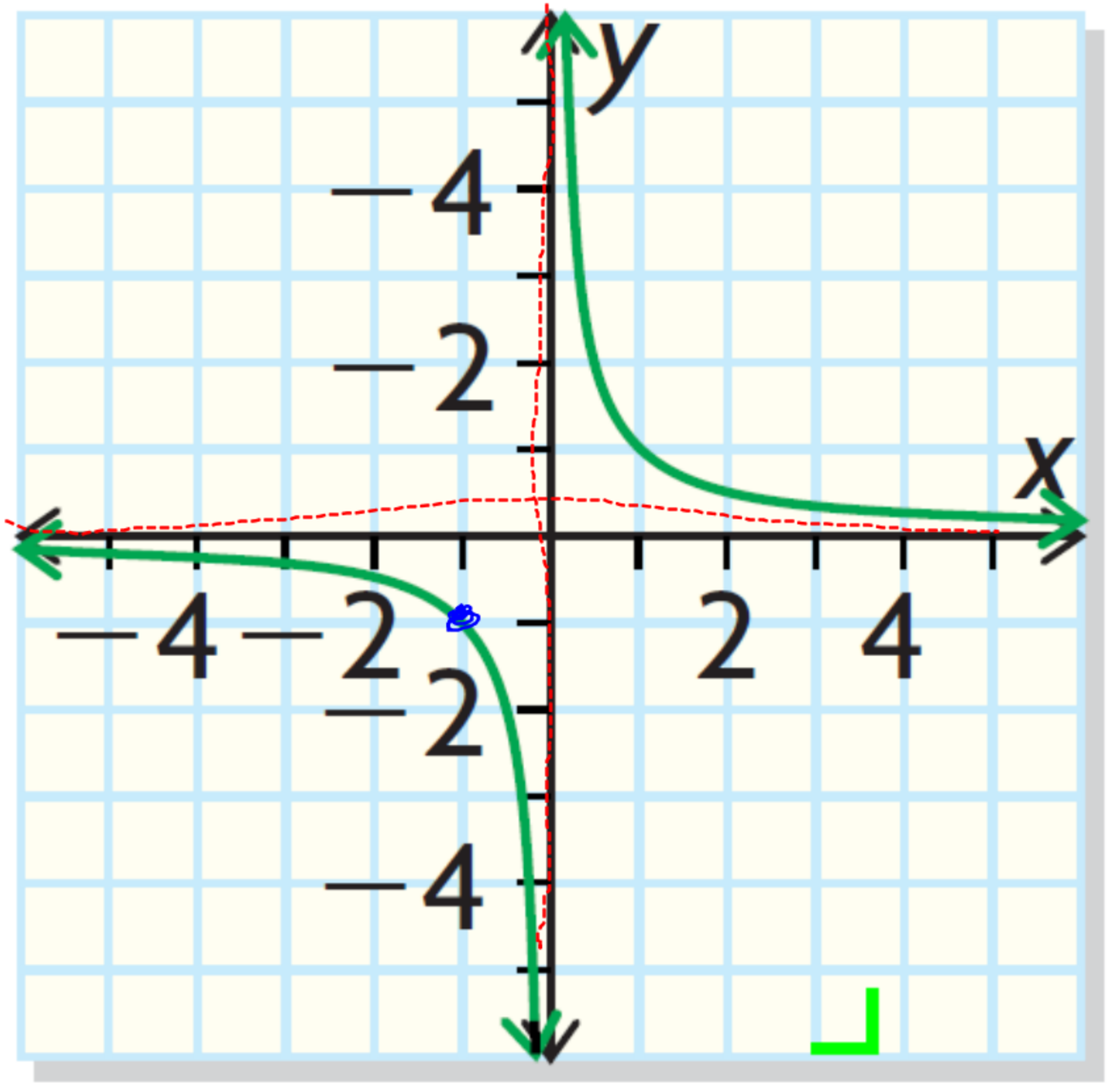
reciprocal function



$f(0) = \frac{1}{0}$ = undefined

Can $\frac{1}{x} = 0$? No.

Asymptote: ~~the~~ function gets closer to the value, but does not reach it.



x	$f(x)$
-2	$-\frac{1}{2}$
-1	-1
$-\frac{1}{2}$	-2
0	0
$\frac{1}{2}$	2
1	1
2	$\frac{1}{2}$