

More Functions:

■ RATIONAL or RECIPROCAL FUNCTIONS

The variable (generally "x") is in the denominator.

Parent equations:

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

and

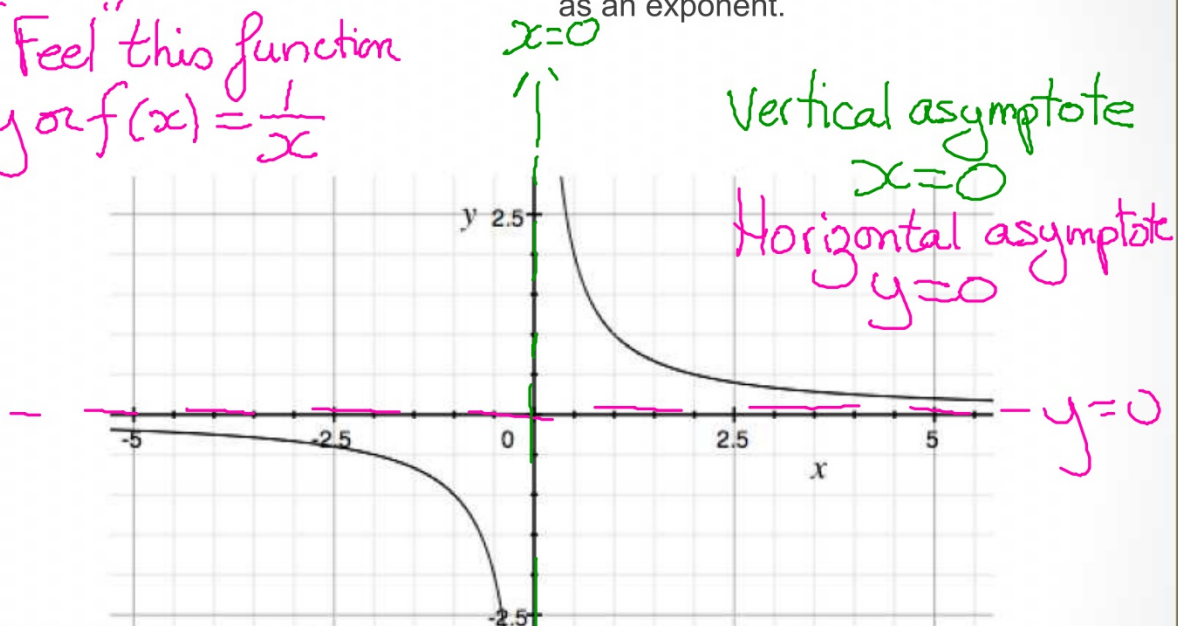
$$f(x) = \frac{-1}{x}$$

Note: Remember, horizontal asymptote affect the range, and Vertical Asymptotes affect the domain!

Rational Functions

Also called "reciprocal" functions, your book calls them, functions with a negative integer as an exponent.

"Feel" this function
 y or $f(x) = \frac{1}{x}$



What happens to the value of the function when x is increasing from zero.

it approaches zero

What happens to the value of the function (y) when x is decreasing from zero

it approaches zero

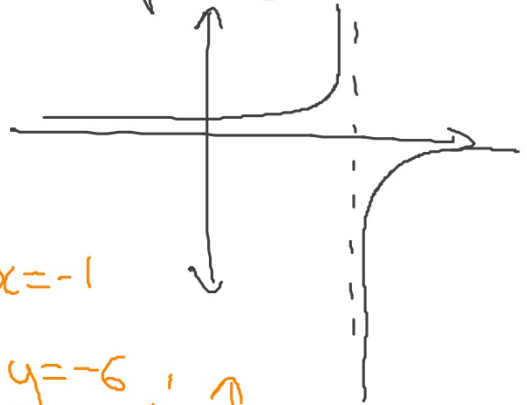
What happens to the value of the function (y) when x is approaching zero from the right side

it goes to ∞ (muy alto... :)

What happens to the value of the function when x is approaching zero from the left side.

$$y = \frac{-1}{x-5}$$

→ Vert. Asymp $x=5$
→ Horiz Asymp $y=0$



$$y = \frac{-2}{x+1} - 6$$

→ V.A. $x=-1$
→ H.A. $y=-6$

