

8.2 Graph of Rational Functions

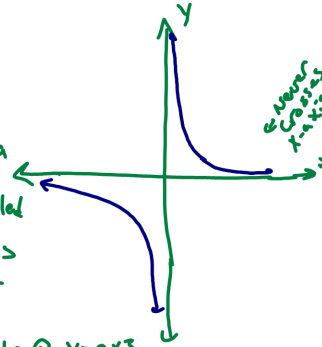
$$y = \frac{1}{x}$$

* Called a hyperbola

* Has something called asymptotes. Gets close to a line, but never crosses.

* horizontal asymptote @ x-axis ($y=0$)

* Vertical asymptote @ y-axis ($x=0$)



Graph $\frac{1}{x}$ sketch

$$y = \frac{3}{x-2} \rightarrow y = \frac{3}{x} - 2 \rightarrow \text{compare}$$

horizontal:

vertical:

Classwork:

Sketch $y = \frac{-3}{x-1} + 2$
 $y = -3/(x-1) + 2$

GRAPHING FUNCTIONS Graph the function.

15. $y = \frac{2x}{x^2 - 1}$

16. $y = \frac{8}{x^2 - x - 6}$

17. $f(x) = \frac{x^2 - 9}{2x^2 + 1}$

