

## Graphing Rational Functions - Example 2

## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

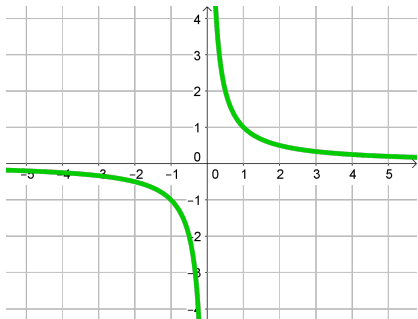
Notice: This is very similar to a  $y = \frac{1}{x}$  which [▶ We Graphed Already](#)

## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

Notice: This is very similar to a  $y = \frac{1}{x}$  which [▶ We Graphed Already](#)



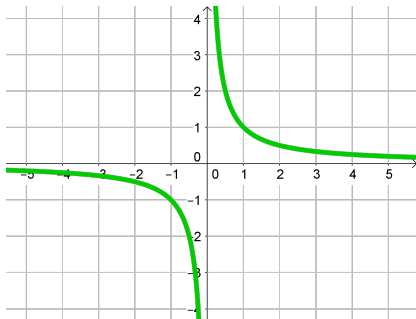
## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

Notice: This is very similar to a  $y = \frac{1}{x}$  which ▶ We Graphed Already

▶ Using Graph Shifting we see that the graph of  $f(x) = \frac{1}{x-1}$  is the graph of  $y = \frac{1}{x}$  horizontally shifted to the right by 1.



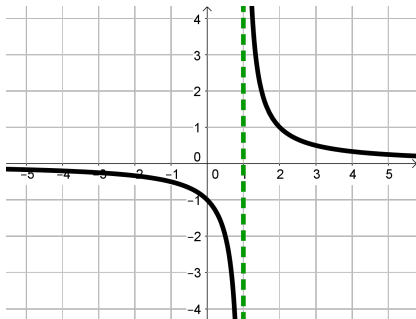
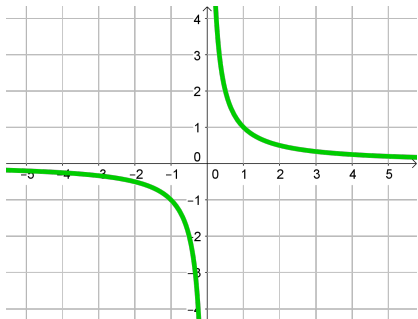
## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

Notice: This is very similar to a  $y = \frac{1}{x}$  which ▶ We Graphed Already

▶ Using Graph Shifting we see that the graph of  $f(x) = \frac{1}{x-1}$  is the graph of  $y = \frac{1}{x}$  horizontally shifted to the right by 1.



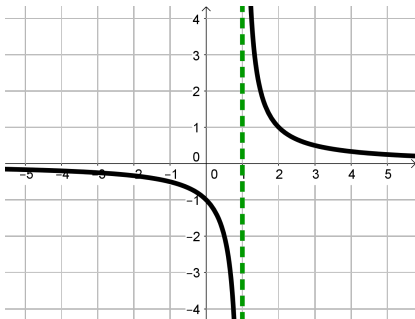
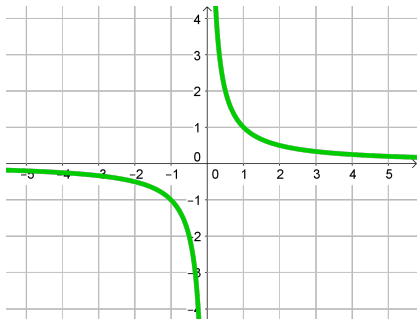
## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

Notice: This is very similar to a  $y = \frac{1}{x}$  which ▶ We Graphed Already

▶ Using Graph Shifting we see that the graph of  $f(x) = \frac{1}{x-1}$  is the graph of  $y = \frac{1}{x}$  horizontally shifted to the right by 1.



Notice: The ▶ vertical asymptote shifts to the right by 1 to  $x = 1$

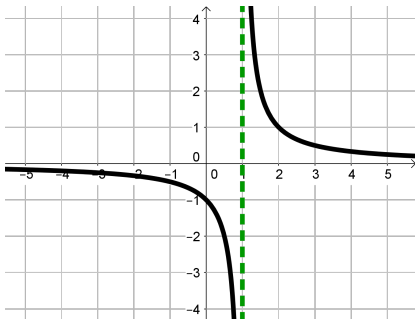
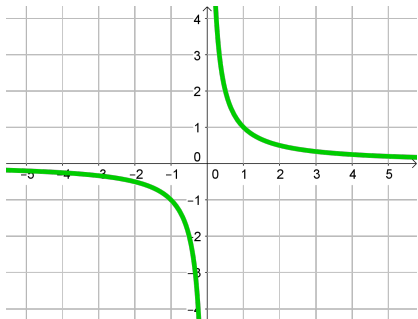
## Graphing Rational Functions - Example 2

**Example:** Graph the function:

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

Notice: This is very similar to a  $y = \frac{1}{x}$  which ▶ We Graphed Already

▶ Using Graph Shifting we see that the graph of  $f(x) = \frac{1}{x-1}$  is the graph of  $y = \frac{1}{x}$  horizontally shifted to the right by 1.



Notice: The ▶ vertical asymptote shifts to the right by 1 to  $x = 1$

The vertical asymptote of  $x = 1$  is expected because  $D(1) = 0$