

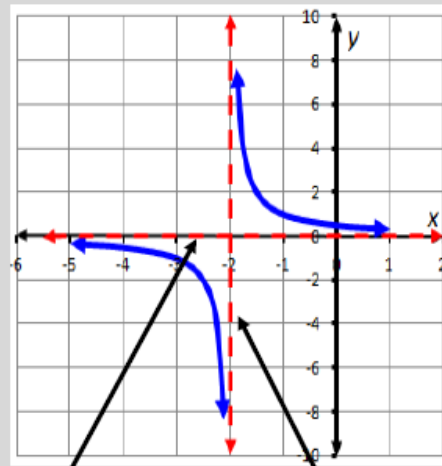
# Discontinuity

(e.g., asymptotes)

Example:

$$f(x) = \frac{1}{x+2}$$

$f(-2)$  is not defined, so  $f(x)$  is discontinuous.



horizontal  
asymptote  
 $y = 0$

vertical asymptote  
 $x = -2$

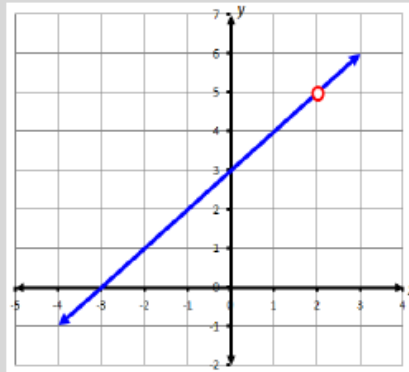
# Discontinuity

(e.g., removable or point)

Example:

$$f(x) = \frac{x^2 + x - 6}{x - 2}$$

$f(2)$  is not defined.



x	f(x)
-3	0
-2	1
-1	2
0	3
1	4
2	error
3	6

$$\begin{aligned} f(x) &= \frac{x^2 + x - 6}{x - 2} \\ &= \frac{(x + 3)(x - 2)}{x - 2} \\ &= x + 3, \quad x \neq 2 \end{aligned}$$

# Discontinuity

(e.g., removable or point)

Example:  
 $f(-2)$  is not defined

