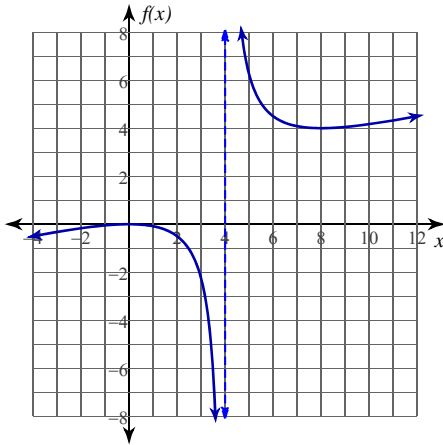


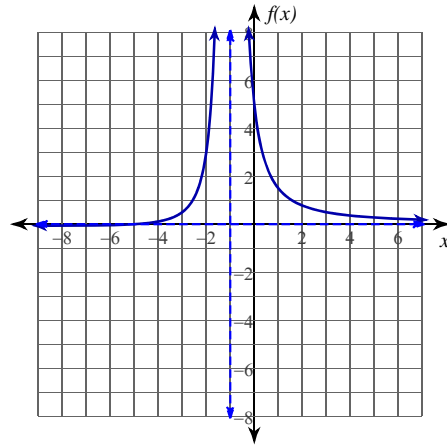
## Evaluating Limits

Evaluate each limit.

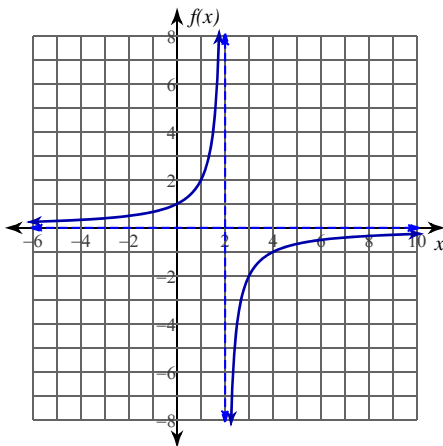
1)  $\lim_{x \rightarrow 4} \frac{x^2}{4x - 16}$



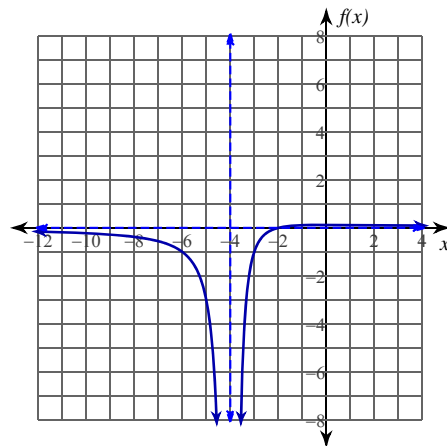
2)  $\lim_{x \rightarrow -1} \frac{x + 5}{x^2 + 2x + 1}$



3)  $\lim_{x \rightarrow 2^-} -\frac{2}{x - 2}$



4)  $\lim_{x \rightarrow -4^+} \frac{x + 2}{x^2 + 8x + 16}$



5)  $\lim_{x \rightarrow -3} -\frac{2x}{x + 3}$

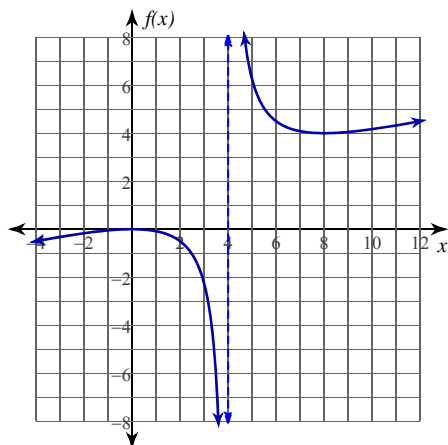
6)  $\lim_{x \rightarrow 5} \frac{x - 2}{x^2 - 10x + 25}$

**Critical thinking question:**7) Give an example of a right-sided limit that goes to  $\infty$  as  $x$  goes to 2.

## Evaluating Limits

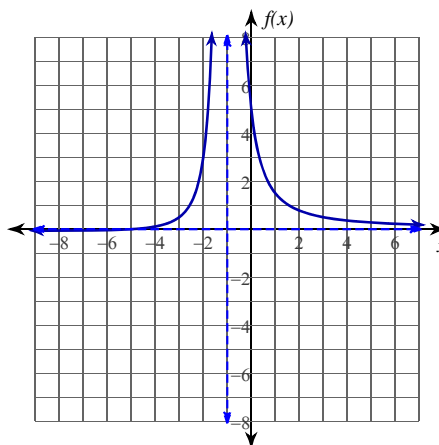
Evaluate each limit.

1)  $\lim_{x \rightarrow 4} \frac{x^2}{4x - 16}$

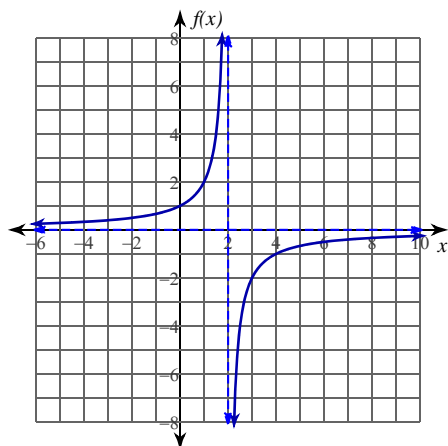


Does not exist.

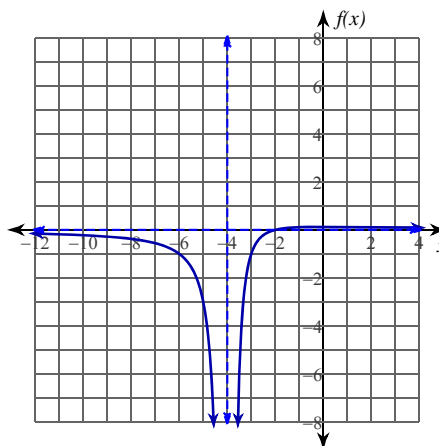
2)  $\lim_{x \rightarrow -1} \frac{x + 5}{x^2 + 2x + 1}$

 $\infty$ 

3)  $\lim_{x \rightarrow 2^-} -\frac{2}{x - 2}$

 $\infty$ 

4)  $\lim_{x \rightarrow -4^+} \frac{x + 2}{x^2 + 8x + 16}$

 $-\infty$ 

5)  $\lim_{x \rightarrow -3} -\frac{2x}{x + 3}$

Does not exist.

6)  $\lim_{x \rightarrow 5} \frac{x - 2}{x^2 - 10x + 25}$

 $\infty$ 

Critical thinking question:

7) Give an example of a right-sided limit that goes to  $\infty$  as  $x$  goes to 2.Many answers. Ex:  $\lim_{x \rightarrow 2^+} \frac{1}{x - 2}$