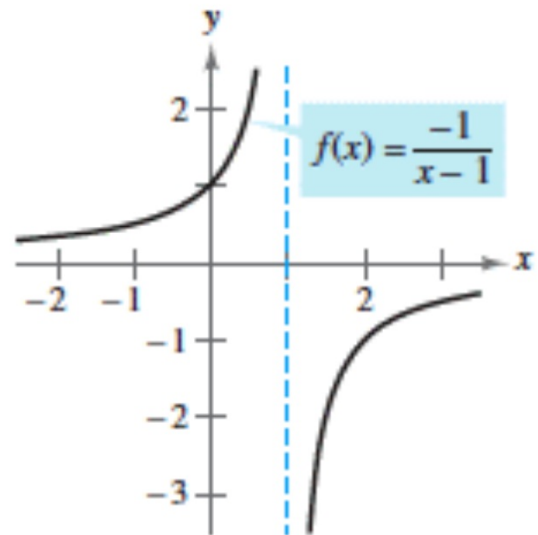
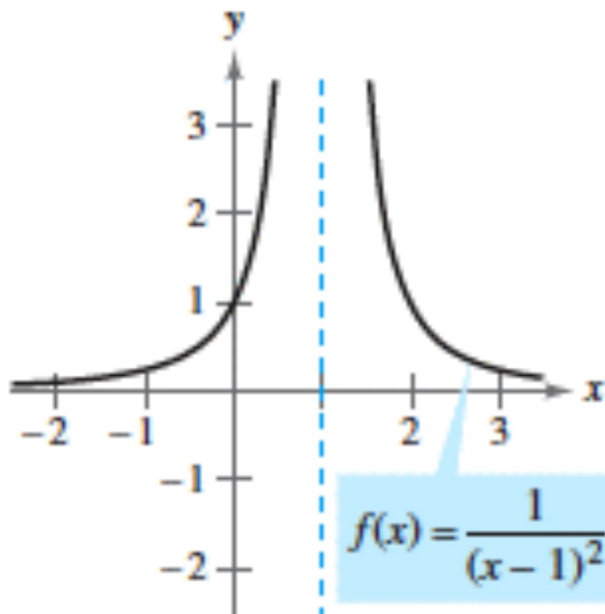


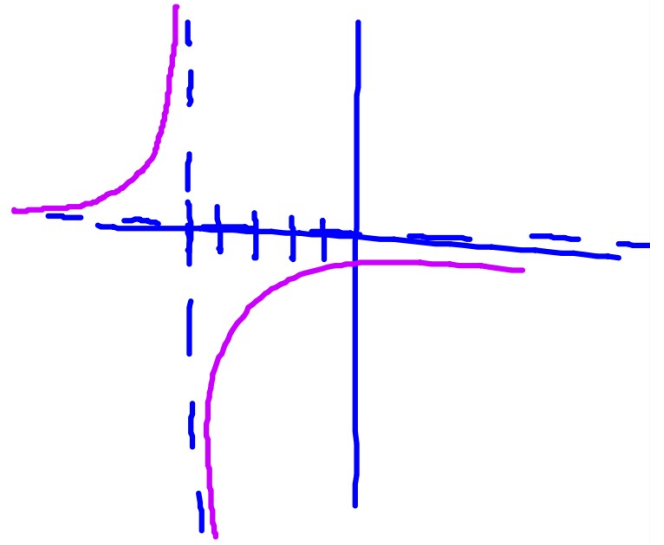
1.5 Infinite Limits

- Determine infinite limits from the left and from the right.
- Find and sketch the vertical asymptotes of the graph of a function.

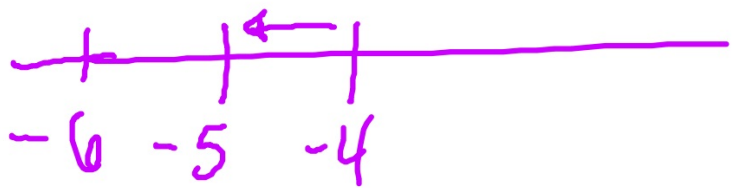


$$\textcircled{1} \lim_{x \rightarrow -5^+} \frac{-1}{x+5}$$

$-\infty$



$$\frac{-1}{-4.9+5} \rightarrow -\infty$$

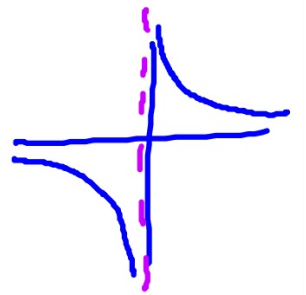


$$\textcircled{2} \lim_{x \rightarrow 0^-} \left(x^2 - \frac{1}{x} \right) = \lim_{x \rightarrow 0^-} x^2 + \lim_{x \rightarrow 0^-} \frac{-1}{x}$$

$$\lim_{x \rightarrow 0^-} x^2 - \lim_{x \rightarrow 0^-} \frac{1}{x}$$

$$0 - (-\infty)$$

∞

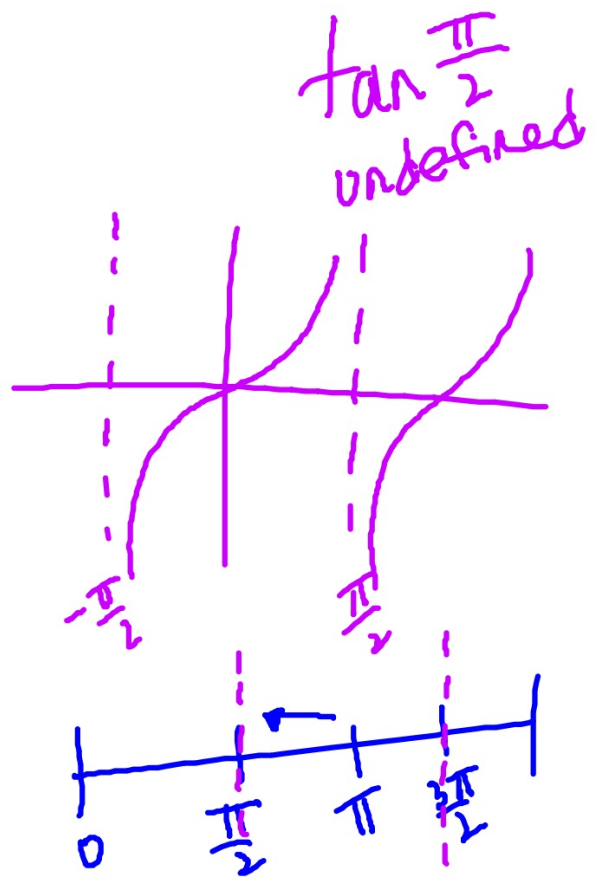
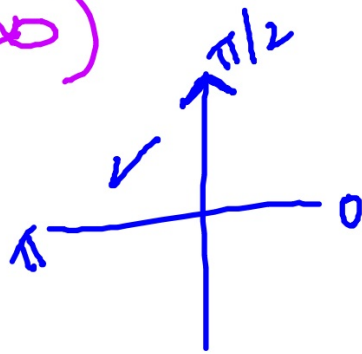


$$\frac{1}{(-.001)}$$

$$\textcircled{3} \lim_{x \rightarrow \pi^+} (-2 \tan \frac{x}{2})$$

$$-2 \lim_{x \rightarrow \pi^+} \tan \frac{x}{2}$$

$$-2(-\infty)$$
$$\infty$$

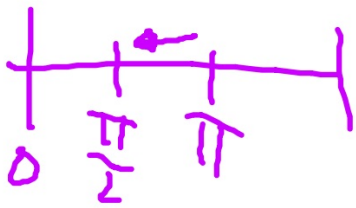


④

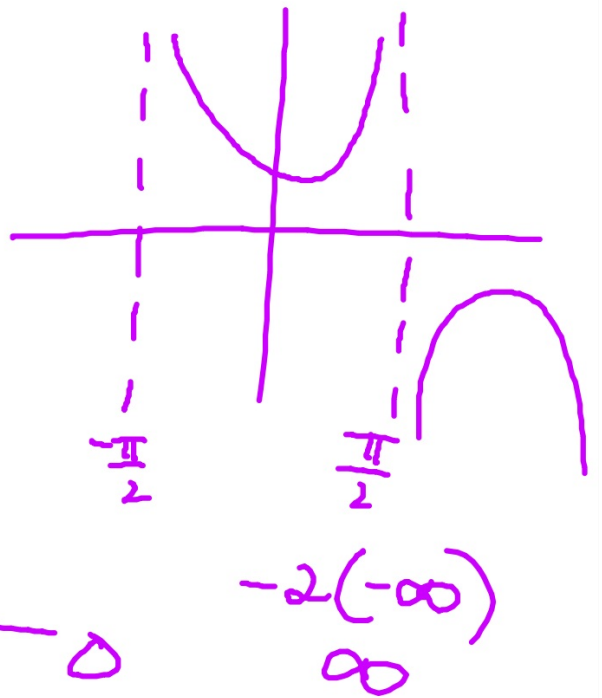
$$\lim_{x \rightarrow (\pi/2)^+} \frac{-2}{\cos x}$$

$$-2 \lim_{x \rightarrow \frac{\pi}{2}^+} \sec x$$

∞



$$\frac{1}{\cos x} = \sec x$$



$$-2(-\infty) = \infty$$