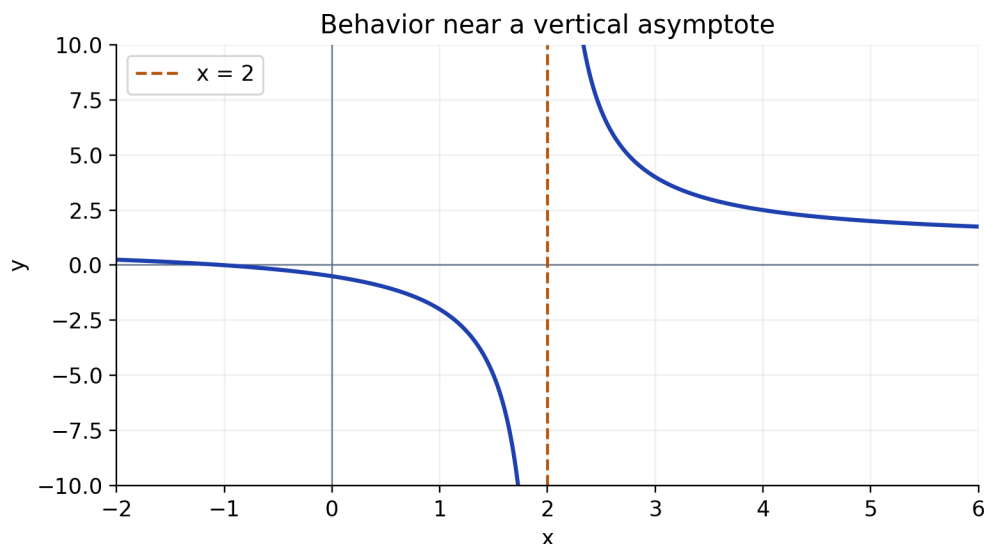


Lesson 1.5 · Practice

No calculator required | Name: _____

1. Find $\lim_{x \rightarrow 2^-} \frac{x+1}{x-2}$ and $\lim_{x \rightarrow 2^+} \frac{x+1}{x-2}$. Does the two-sided limit exist? Identify the vertical asymptote.



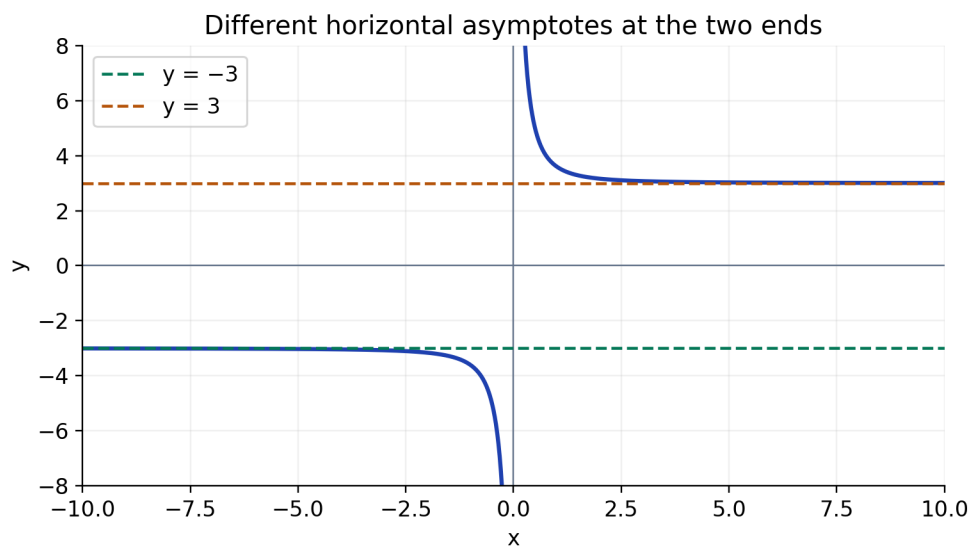
Follow each branch as x approaches the dashed line.

2. Evaluate $\lim_{x \rightarrow +\infty} \frac{5x^2 - 3}{2x^2 + 7x}$. Identify the horizontal asymptote.

Lesson 1.5 · Practice

No calculator required | Name: _____

3. Evaluate $\lim_{x \rightarrow -\infty} \frac{\sqrt{9x^2 + 4}}{x}$. Explain the sign.

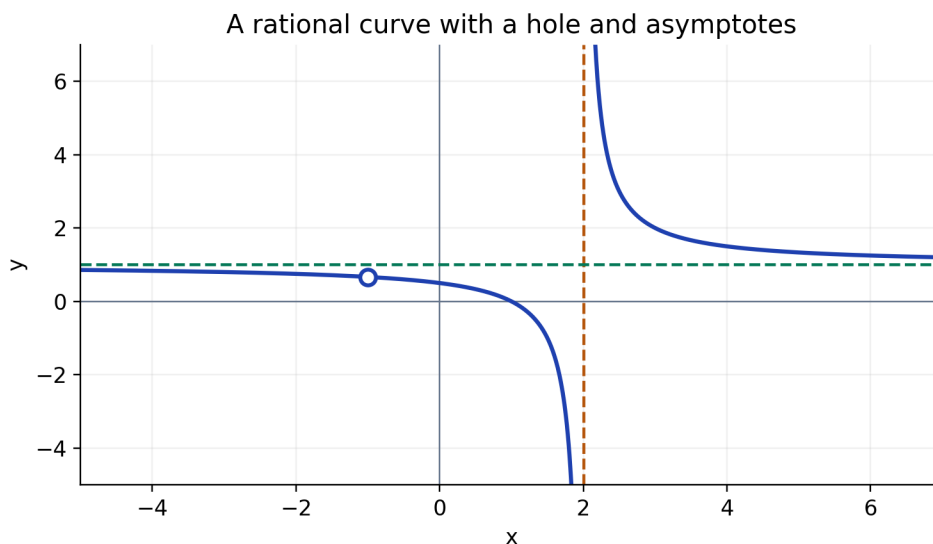


Compare end behavior on the negative and positive sides.

Lesson 1.5 · Practice

No calculator required | Name: _____

4. For $f(x) = \frac{x^2 - 1}{x^2 - x - 2}$, classify the excluded inputs and find both end limits.



A canceled factor creates a hole; the remaining denominator factor creates an asymptote.