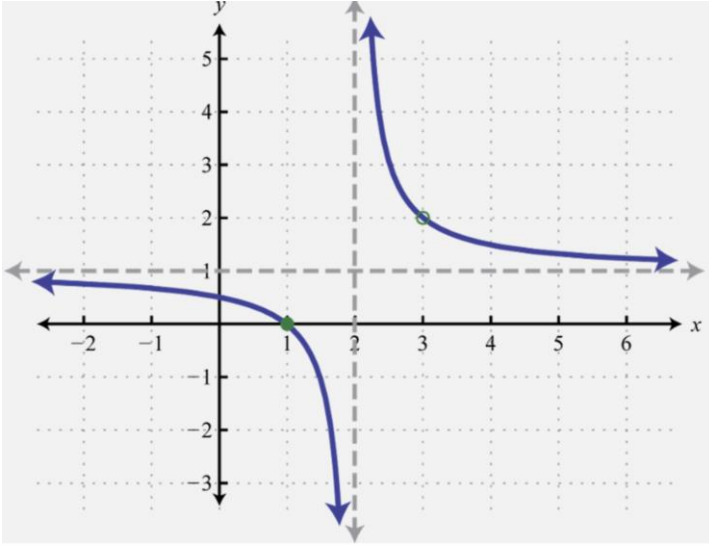


Evaluate the limit based on the graph of f shown.



$$\lim_{x \rightarrow 2^-} f(x) =$$

$$\lim_{x \rightarrow 2^+} f(x) =$$

Use limits to describe the behavior of the rational function near the indicated asymptote.

$$f(x) = \frac{6}{x + 3}$$

Describe how the graph of the given function can be obtained by transforming the graph of the reciprocal/inverse function. Identify the horizontal and vertical asymptotes and use limits to describe the corresponding behavior. Sketch the graph of the function.

$$f(x) = \frac{3x - 5}{x + 2}$$

Solve the equation algebraically

$$2x + \frac{12}{x} = 11$$

Solve the equation algebraically

$$\frac{x+3}{x} - \frac{2}{x+3} = \frac{6}{x^2+3x}$$

Solve the equation algebraically

$$\frac{2x}{x-1} + \frac{1}{x-3} = \frac{2}{x^2 - 4x + 3}$$

Determine the values of x that cause the function to be a) zero, b) undefined, c) Positive, and d) Negative

$$f(x) = \frac{\sqrt{x+5}}{(3x+2)(x-4)}$$

Solve the inequality

$$\frac{x^2 + x - 2}{x^2 + 6x + 8} < 0$$

$$f(x) = \frac{x^2 - 3x - 4}{x - 3}$$

- A) Find the Intercepts
- B) Find the asymptotes (Vertical, Horizontal/Slant)
- C) Find the Domain
- D) Determine where the function is continuous
- E) Use the limits to describe the end behaviors
- F) Use the limits describe the behaviors at the vertical asymptotes
- G) Sketch a graph
- H) Then find the intervals of increasing and decreasing