

Graphing Rational Functions

To sketch the graph of a rational function, determine the end behavior, find all of the critical points (roots, asymptotes or domain restrictions, & y-intercept), and use a sign line to determine where the function is located on any interval.

1. $f(x) = \frac{(x-3)(x+4)}{(x+1)(x-5)(x+3)}$

x-intercepts(s):

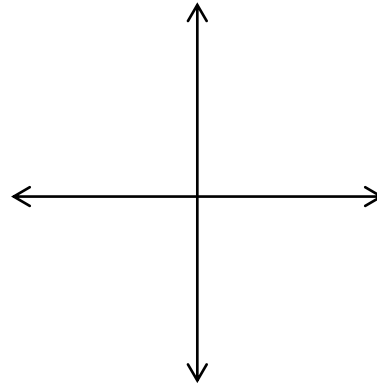
y-intercept:

Vertical asymptote(s):

Circle: Proper or Improper
End behavior asymptotes*:

as $x \rightarrow -\infty, f(x) \rightarrow \underline{\hspace{2cm}}$

as $x \rightarrow \infty, f(x) \rightarrow \underline{\hspace{2cm}}$



Create a sign line, then complete the graph above.



2. $f(x) = \frac{(2-x)(x+4)}{x^2-9}$

x-intercepts(s):

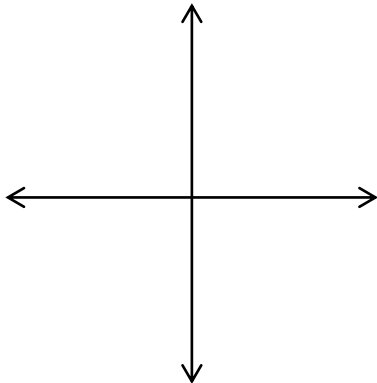
y-intercept:

Vertical asymptote(s):

Circle: Proper or Improper
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