

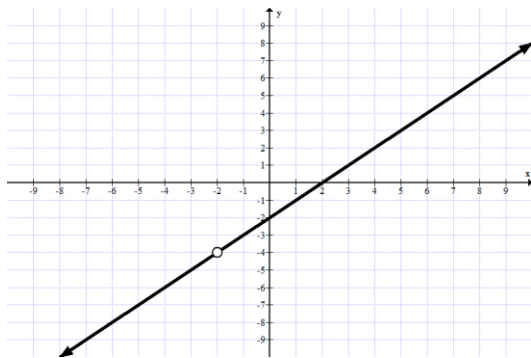
2.5 Graphs of Rational Functions

Name _____

Determine where the graph of the rational function is increasing and decreasing.

1. $f(x) = \frac{2}{x-4}$

2. $f(x) = \frac{x}{x+1}$

3. Describe the left-hand and right-hand side behavior of the following graph as it approaches $x = -2$.

For #4-7, also find common factor: _____ remaining function: _____ and RD: _____ AND domain: _____
VA: _____ HA: _____ y-int: _____ x-int: _____

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

5. $f(x) = \frac{x^2 + 2x - 3}{x^2 + 6x + 9}$

5. $f(x) = \frac{x - 4}{x^2 + 2x - 24}$

6. $f(x) = \frac{x^2 - 2x}{x^3 + 5x^2 + 6x}$

57-64 ■ Find the slant asymptote, the vertical asymptotes, and sketch a graph of the function.

57. $r(x) = \frac{x^2}{x - 2}$

59. $r(x) = \frac{x^2 - 2x - 8}{x}$

61. $r(x) = \frac{x^2 + 5x + 4}{x - 3}$

63. $r(x) = \frac{x^3 + x^2}{x^2 - 4}$