

1. Use $g(x)$ for questions a – d and round to 3 decimal places. $g(x) = \frac{2x^2 - 8}{x - 3}$

Maximum:

c. Increasing:

Minimum:

d. Decreasing:

2. Analyze each function and fill in the chart below. Use a separate piece of paper to show work.

	$f(x) = \frac{2x-1}{x-7}$	$g(x) = \frac{x^2+5x}{x^2+7x+10}$	$h(x) = \frac{x^2-7x+12}{x^2-9}$	$f(x) = \frac{2x^2+5x-3}{x+3}$
Vertical Asymptote(s) Analyze Denominator				
Horizontal Asymptote(s) Analyze Degrees of Polynomial				
HOLES or Removable Point(s) of Discontinuity Simplify rational by factoring				
x-intercepts set $y = 0$				
y-intercepts set $x = 0$				
Domain (consider vertical asymptotes and x-value of hole)				
Range (consider horizontal asymptote and y-value of hole)				
Find the following limits for the functions above or determine the increasing or decreasing interval.	$\lim_{x \rightarrow 7^-} f(x) =$	$\lim_{x \rightarrow -5} g(x) =$	Increasing:	$\lim_{x \rightarrow -\infty} f(x) =$
	Decreasing:	$\lim_{x \rightarrow -2^+} g(x) =$	$\lim_{x \rightarrow 3} h(x) =$	$\lim_{x \rightarrow 3} f(x) =$