1.2 Functions and Their Properties
Vertical and Horizontal Asymptotes
Target 1A: Analyze functions using specific properties

Review of Prior Concepts

Identify any discontinuities for $f(x) = \frac{x^2+7x+10}{x^2-4x-12}$ and describe the type of discontinuity.

More Practice

Discontinuities
http://www.ck12.org/Analysis/Discrete-and-Continuous-Functions/lesson/Continuity-and-Discontinuity-PCALC/
https://www.youtube.com/watch?v=2n5VzMFJQVY

Vertical & Horizontal Asymptotes

RECALL:
Vertical Asymptotes – non-removable discontinuity found from denominator set equal to zero (after common factors have been removed).

Horizontal Asymptotes -- occur when end behavior approaches a #, *c*. H.A. is @ *y* = *c*.

NOTATION: $\lim_{x\to\infty} f(x) = c$ or $\lim_{x\to-\infty} f(x) = c$

Graph each function. Find vertical asymptotes algebraically & horizontal asymptotes graphically (if any).

Example 1: $g(x) = \frac{2x^2}{4-x^2}$

Example 2: $f(x) = \frac{x}{x^2-x-2}$

Example 3: $h(x) = \frac{4x^2-6x^3}{x^2-4x}$

More Practice

Vertical Asymptotes
http://www.purplemath.com/modules/asymtote.htm
https://www.youtube.com/watch?v=h910JbhzecI

Homework Assignment
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