# Lesson 5.3 Practice: Rational Functions and Asymptotes

School Launch · Algebra II · Unit 5: Rational Expressions and Functions · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

**1.** Find the vertical and horizontal asymptotes of $f(x) = \frac{4}{x-6}$. EASY

**2.** Find the vertical and horizontal asymptotes of $f(x) = \frac{3}{x+1}$. EASY

**3.** Find the vertical and horizontal asymptotes of $f(x) = \frac{1}{x-6}$. EASY

**4.** Find the vertical and horizontal asymptotes of $f(x) = \frac{x-5}{x+1}$. MEDIUM

**5.** Find the vertical and horizontal asymptotes of $f(x) = \frac{4x-3}{x-1}$. MEDIUM

**6.** Find the vertical and horizontal asymptotes of $f(x) = \frac{4x-4}{x+2}$. MEDIUM

**7.** Find the vertical and horizontal asymptotes of $f(x) = \frac{4x-4}{x+4}$. MEDIUM

**8.** Find the vertical and horizontal asymptotes of $f(x) = \frac{x-6}{x+6}$. HARD

**9.** Find the vertical and horizontal asymptotes of $f(x) = \frac{3x+3}{x+4}$. HARD

**10.** Find the vertical and horizontal asymptotes of $f(x) = \frac{x+3}{x+6}$. HARD