MHF 4UI - EXAM REVIEW

Chapter 2 - Rational Functions

Graphing Rational Functions

Asymptotes:

Vertical: When denominator equals zero, (check Left and Right Hand Limits at that point).

Horizontal: What happens as x gets really large?... check limit as x approaches infinity of *f(x)*

Oblique: When degree of numerator is EXACTLY one more than the denominator (divide numerator by denominator to find equation of asymptote... in y = mx + b form)

Example: Calculate the oblique asymptote for the equation:

$$y = \frac{5x^2 + 3x - 2}{x - 1}$$

Example: Graph : $\frac{x}{x^2 - 3x - 4}$

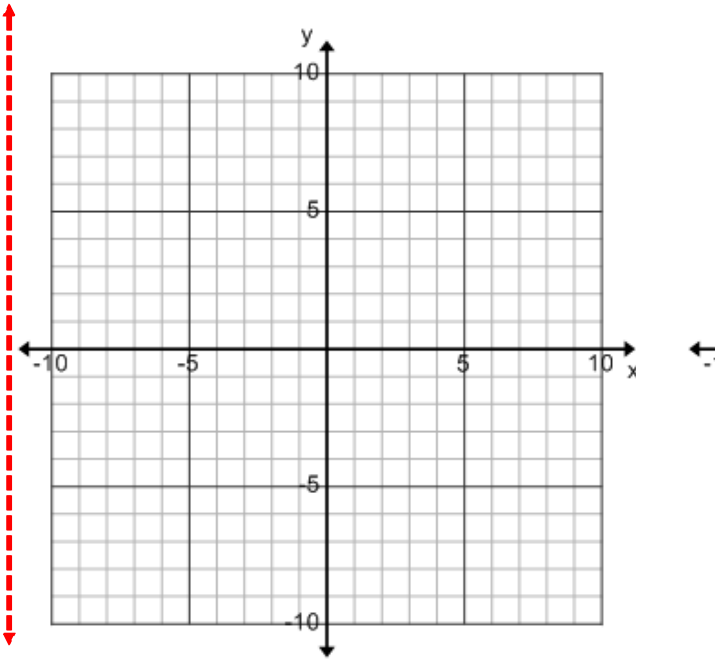
a) Intercepts

x intercept, let y = 0

y intercept, let x = 0

b) Domain

c) Vertical Asymptotes



d) Horizontal Asymptote
(Is it crossed?)

Solving Rational Equations and Inequalities

Example: Solve $\frac{2x}{x+1} \geq 0$

FIRST: Solve $\frac{2x}{x+1} = 0$

THEN: Use an INTERVAL CHART

Limits:

You will only need to calculate limits to find vertical and horizontal asymptotes.