$5x-2y \leq 75$

$\begin{bmatrix} a & b \\ c & d \end{bmatrix}$

$S = Pe^{rt}$

$APY = (1+\frac{r}{n})^{n}-1$

Math 1090 ~ Business Algebra

Section 3.5 Rational Functions

Objectives:
- Identify a rational function.
- Determine the domain and intercepts of a rational function.
- Determine vertical and horizontal asymptotes.
- Sketch a rational function.

Definition

Rational Function $f(x) = \dfrac{n(x)}{d(x)}$

where $n(x)$ and $d(x)$ are polynomials.

Asymptotes

Vertical asymptotes

Horizontal asymptotes

How to graph a rational function

1) find the domain

    a) find VA

    b) find HA

2) Find x and y-intercepts

3) Plot intercept points and at
least one point on all sides of
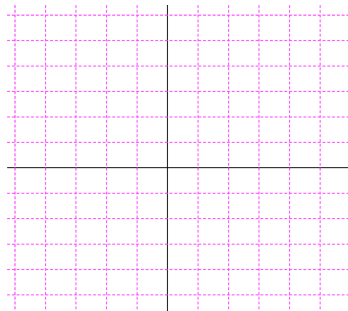the vertical asymptotes.

4) Fill in the graph with smooth
curves that approach the
asymptotes.

Ex 1: Analyze and graph.

a) $f(x) = \dfrac{2+x}{1-x}$

b) $f(x) = \dfrac{10}{x^2+2}$

Ex 2: Analyze and graph. $g(x) = \dfrac{x-3}{2x^2-5x-3}$