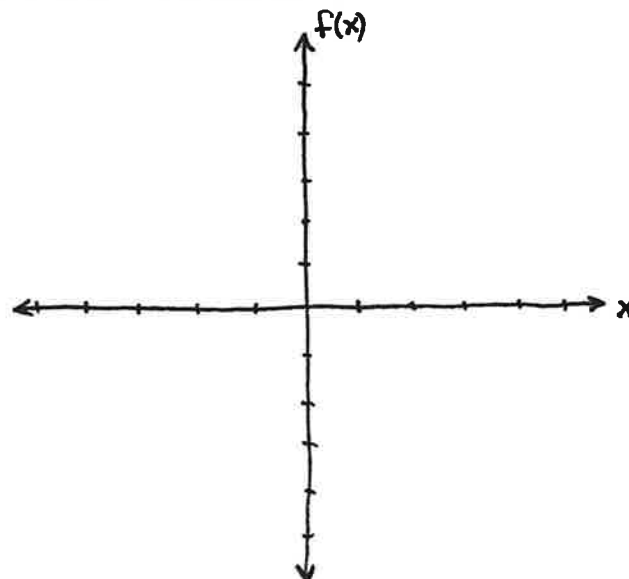


MATH 1314

Chapter 3.5: Introduction to Rational Functions

GRAPH $f(x) = \frac{1}{x}$



RATIONAL FUNCTION

DOMAIN: WHAT THE FUNCTION CAN HAVE FOR x .

EXAMPLES:

$$f(x) = \frac{x-3}{x-1}$$

$$f(x) = \frac{2x-3}{x^2-4}$$

$$f(x) = \frac{x^2-9}{x+3}$$

$$f(x) = \frac{x+5}{x^2+25}$$

ASYMPTOTES

VERTICAL

HORIZONTAL

OBLIQUE (SLANT)

ASYMPTOTES CHECK $f(x) = \frac{P(x)}{Q(x)}$

$$Q(c) = 0$$

$$N < D$$

$$N = D$$

$$N > D \dots$$

$$N = D + 1$$

$$N \geq D + 2$$