Domain of Rational Functions

Rational Function - A function in the form $\frac{P}{Q}$ where $Q \neq 0$.

$\frac{3}{x}$ $\frac{x+1}{x+5}$ $\frac{x^2+2x+1}{x^2+3x-4}$

Domain - the x values

Undefined Fraction - when the denominator of a fraction is equal to zero

To Find the Domain of a Rational Function - set the denominator equal to zero

1. Find the domain of each rational function.

a) $y = \frac{3}{x}$

b) $y = \frac{6}{4x-5} + 2$

c) $y = \frac{x+9}{x^2-81}$

d) $y = \frac{x^2-4}{x^3+5x^2+6x}$

e) $y = \dfrac{5x^2}{x^2 + 1}$

f) $y = \dfrac{7 - x}{25x^2 - 1}$