

Simplify Rational Expressions

What is a **rational expression**?

When is a rational expression completely simplified?

Example 1 Simplify by canceling like terms

A] $\frac{60x^3}{12x^5}$

B] $\frac{3x}{3x-1}$

C] $\frac{(x+2)(x-3)}{(2x-3)(x+2)}$

D] $\frac{3xy}{12xy^2}$

E] $\frac{5(x-3)}{15(x+3)}$

F] $\frac{8x(x-3)(x+1)}{2x(x-2)(x-3)}$

B] $\frac{2x^2 + 7x + 3}{x^2 + 6x}$

A] $\frac{x^2 - 4}{x^2 + 7x + 10}$

B] $\frac{x^3 - 2x^2 + 4x - 8}{x^4 - 16}$

A] $\frac{3x^2 + 9x + 27}{x^3 - 27}$

Example 3 Simplify by factoring and canceling like terms

Example 2 Simplify by factoring and canceling like terms