Simplifying Rational Expressions

Name _____

Date _____ Period _____

Rational Expression

a fraction of polynomials $\frac{\text{polynomial}}{\text{polynomial}}$

$\frac{2x^2 + 3x + 2}{x^2 - 4x + 6}$ $\frac{x^2 - 4}{2x}$ $\frac{27x^3 + 8}{x^2 - x - 20}$

Simplifying a Rational Expression

A rational expression is simplified the when numerator and denominator have no common factors.

Express polynomials in numerator and denominator in factored form.

Simplify the following rational expressions

$\frac{6x^6}{4x^2}$ $\frac{x^2 - 4}{x^2 - 6x - 16}$

$\frac{5a^7b^3}{2a^3b^8}$ $\frac{x^2 + 2x + 1}{x^2 - 5x - 6}$

Simplify the following rational expressions

$$\frac{-x-5}{x^2+3x-10}$$

$$\frac{x^3-9x}{2x^3-4x^2-30x}$$

Simplify the following rational expressions

$$\frac{6x^2+13x-5}{6x^2+17x+5}$$

$$\frac{-2x^3+2x}{3x^3+9x^2+6x}$$