

Simplifying Algebraic Fractions

Algebraic fractions can be simplified by division.

Example 1: Simplify $\frac{3x^3 + 5x^2 - 2x}{x}$

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

Example 2: Simplify $\frac{6x^4 - 5x^3 + 2x^2}{-2x}$

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