

Simplifying Rational Expressions

Summary

1. Simplify rational expressions by factoring the numerator and denominator; then divide common factors.

TO SIMPLIFY RATIONAL EXPRESSIONS:

1. Factor the numerator and denominator completely.
2. Divide any common factors.

Example 1. Simplify each completely.

(a) $\frac{x+1}{x^2+4x+3}$

(b) $\frac{x^2+7x+10}{5x+10}$

(c) $\frac{x^2-7x-18}{2x^2+3x-2}$

(d) $\frac{x^2-2x-15}{3x^2+8x-3}$