

Rational Expressions (Sections 6.1, 6.2)

After multiplying or dividing, don't forget to simplify. Simplify by factoring the numerator and denominator, and then removing factors of 1 (same factor in numerator and denominator).

1) Simplify: $\frac{16x^2 - 4x^3}{x^2 - 2x - 8}$

2) Multiply and simplify: $\frac{2x^2 - 18}{10x} \cdot \frac{25x^3 + 10x^2}{x - 3}$

3) Divide and simplify: $\frac{4m - 8}{m + 2} \div \frac{m - 2}{m^2 - 4}$

4) Multiply and simplify: $\frac{x^2 + 5x + 4}{x^2 - 6x + 8} \cdot \frac{x^2 + 5x - 14}{x^2 + 8x + 7}$

Adding and Subtracting Rational Expressions with the Same Denominator (Section 6.3)

5) Subtract and simplify: $\frac{x^2}{x-3} - \frac{8x-15}{x-3}$