

Exam Review: Rational Expressions

1. Fully factor each expression.

a) $2x^2 + 4x - 6$

b) $9x^2 - 4y^2$

c) $6x^2 + 5x - 4$

2. Simplify the following. Express all powers with positive exponents.

a) $\frac{32x^5y^3}{8xy^2}$

b) $\frac{5y}{8x^2} \times \frac{12x^6y^3}{6x^2y}$

c) $\frac{2x-6}{x+2} \times \frac{x+1}{x-3}$

d) $\frac{2}{x-3} - \frac{3}{x+5}$

e) $\frac{x^2-9}{2x^2-5x-3}$

f) $\frac{2}{x^2+x-6} + \frac{3x}{x^2-4}$

3. State the restriction(s) for each expression.

a) $\frac{7x}{(x+3)(x-5)} \times \frac{2(x-8)}{3}$

b) $\frac{4}{2x-5} - \frac{2x}{x^2}$

c) $\frac{2x}{5(x-y)} - \frac{x}{7}$

d) $\frac{x+4}{x-5} \div \frac{3-x}{x-1}$