

Reduce each expression to lowest terms.

(1)
$$\frac{-2x-4}{x^2-3x-10}$$

(2)
$$\frac{x^2y^6}{x^2y^3+x^4y^2}$$

(3)
$$\frac{2c^2+2cd-60d^2}{2c^2-12cd+10d^2}$$

Perform the indicated operations.

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

(5)
$$\frac{x^3-5x^2+6x}{2x^2-6x} \cdot \frac{4x^3+32}{2x^3-8x}$$

(6)
$$\frac{x}{x^2+3x+2} + \frac{x-1}{x^2+5x+6}$$

(7)
$$\frac{x+5}{x^2-4x+3} + \frac{x-1}{x^2+x-12}$$

(8)
$$\frac{7}{x-2} - \frac{6}{x^2-2x} - \frac{3}{x}$$

Simplify each complex fraction.

(9)
$$\frac{\frac{1}{2a^2b} - 2a}{\frac{1}{4ab^3} + \frac{1}{3b}}$$

(10)
$$\frac{\frac{1}{y^2-2} - 3}{\frac{5}{y^2-2} + 4}$$