

Perform the following operations. Reduce where possible.

$$1. \frac{(x-2)(4x-5)}{(x+3)} \cdot \frac{(x-2)(x+3)}{(5-x)}$$

$$2. \frac{(x+5)}{(x-6)} \div \frac{(x-6)}{(2x+3)}$$

$$3. \frac{(x+5)}{(x-6)} \cdot \frac{(x-6)}{(2x+3)}$$

$$4. \frac{ab^3c^4}{d^3} \cdot \frac{ad}{b^2c} \div \frac{c^2d}{a^2b}$$

$$5. 2x^2yz \cdot \frac{4x}{y^3z^2}$$

$$6. \frac{x^2 - 5x + 6}{x^2 + 7x + 10} \div \frac{2-x}{x+2}$$

$$7. \frac{x}{x+y} \div \frac{y}{x+y}$$

$$8. \frac{u^2 - 16}{u + 2} \div \frac{u^2 + 8u + 16}{u + 7}$$

$$9. \frac{q^2 - 1}{q^2 + 2q - 3} \cdot \frac{q + 3}{q - 4} \cdot \frac{q^2 - q - 12}{q + 1}$$

$$10. \frac{2x^2 + 7x - 15}{4x^3 - 4x^2 - 120x} \cdot (2x^2 - 12x)$$

ANSWERS

$$1. \frac{(x - 2)^2 (4x - 5)}{5 - x}$$

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

$$3. \frac{x + 5}{2x + 3}$$

$$4. \frac{a^4 b^2 c}{d^3}$$

$$5. \frac{8x^3}{y^2 z}$$

$$6. -\frac{x - 3}{x + 5}$$

$$7. \frac{x}{y}$$

$$8. \frac{(u + 7)(u - 4)}{(u + 4)(u + 2)}$$

$$9. q + 3$$

$$10. \frac{2x - 3}{2}$$