

## Multiplying and Dividing Rational Functions

Simplify each expression

1. 
$$\frac{6x^2y^3}{2x^2y^2} \cdot \frac{10x^3y^4}{18y^2}$$

6. 
$$\frac{x^2-4}{x+3} \cdot \frac{x^2+4x+3}{2x-4}$$

2. 
$$\frac{4x-2x^2}{x^2-5x+6} \cdot \frac{x^2-4x+3}{2x}$$

7. 
$$\frac{2x^2-2}{x^2-6x-7} \cdot (x^2 - 10x + 21)$$

3. 
$$\frac{(x-3)^2}{x^2-6x+9} \cdot \frac{x^3-9x}{x^2-9}$$

8. 
$$\frac{x+4}{x^2-25} \cdot (x^2 + 3x - 10)$$

4. 
$$\frac{x^2+3x-10}{x^2+8x+15} \cdot \frac{x^2+5x+6}{x^2+4x+4}$$

9. 
$$\frac{4x^2y}{15x^3y^3} \div \frac{2xy^2}{5xy^3}$$

5. 
$$\frac{x^2-11x+24}{x^2-18x+80} \cdot \frac{x^2-15x+50}{x^2-9x+20}$$

10. 
$$\frac{x+2}{x+3} \div \frac{x^2+x-12}{x^2-9}$$

$$11. \quad \frac{3x+6}{x^2-9} \div \frac{6x^2+12x}{4x+12}$$

$$12. \quad \frac{x^2+8x+16}{x+2} \div \frac{x^2+6x+8}{x^2-4}$$

$$13. \quad \frac{x^2-14x+48}{x^2-6x} \div (3x-24)$$

14.

$$(x-5) \div \frac{x^2-11x+30}{x^2+7x+12} \cdot (x-6)$$