

## 5-2 Practice

### Dividing Polynomials

Simplify.

$$1. \frac{15r^{10} - 5r^8 + 40r^2}{5r^4}$$

$$2. \frac{6k^2m - 12k^3m^2 + 9m^3}{2km^2}$$

$$3. (-30x^3y + 12x^2y^2 - 18x^2y) \div (-6x^2y)$$

$$4. (-6w^3z^4 - 3w^2z^5 + 4w + 5z) \div (2w^2z)$$

$$5. (4a^3 - 8a^2 + a)(4a)^{-1}$$

$$6. (28d^3k^2 + d^2k^2 - 4dk^2)(4dk^2)^{-1}$$

$$7. \frac{f^2 + 7f + 10}{f + 2}$$

$$8. \frac{2x^2 + 3x - 14}{x - 2}$$

$$9. (a^3 - 64) \div (a - 4)$$

$$10. (b^3 + 27) \div (b + 3)$$

$$11. \frac{2x^3 + 6x + 152}{x + 4}$$

$$12. \frac{2x^3 + 4x - 6}{x + 3}$$

$$13. (3w^3 + 7w^2 - 4w + 3) \div (w + 3)$$

$$14. (6y^4 + 15y^3 - 28y^2 - 6) \div (y + 2)$$

$$15. (x^4 - 3x^3 - 11x^2 + 3x + 10) \div (x - 5)$$

$$16. (3m^5 + m - 1) \div (m + 1)$$

$$17. (x^4 - 3x^3 + 5x - 6)(x + 2)^{-1}$$

$$18. (6y^2 - 5y - 15)(2y + 3)^{-1}$$

$$19. \frac{4x^2 - 2x + 6}{2x - 3}$$

$$20. \frac{6x^2 - x - 7}{3x + 1}$$

$$21. (2r^3 + 5r^2 - 2r - 15) \div (2r - 3)$$

$$22. (6t^3 + 5t^2 - 2t + 1) \div (3t + 1)$$

$$23. \frac{4p^4 - 17p^2 + 14p - 3}{2p - 3}$$

$$24. \frac{2h^4 - h^3 + h^2 + h - 3}{h^2 - 1}$$

**25. GEOMETRY** The area of a rectangle is  $2x^2 - 11x + 15$  square feet. The length of the rectangle is  $2x - 5$  feet. What is the width of the rectangle?

**26. GEOMETRY** The area of a triangle is  $15x^4 + 3x^3 + 4x^2 - x - 3$  square meters. The length of the base of the triangle is  $6x^2 - 2$  meters. What is the height of the triangle?