NAME _____ DATE _____ PERIOD _____

Practice

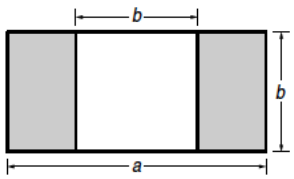
Polynomials

State whether each expression is a polynomial. If the expression is a polynomial, identify it as a *monomial*, a *binomial*, or a *trinomial*.

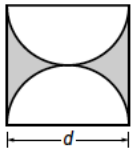
1. $7a^2b + 3b^2 - a^2b$ **2.** $\frac{1}{5}y^3 + y^2 - 9$ **3.** $6g^2h^3k$

GEOMETRY Write a polynomial to represent the area of each shaded region.

4.



5.



Find the degree of each polynomial.

6. $x + 3x^4 - 21x^2 + x^3$ **7.** $3g^2h^3 + g^3h$

8. $-2x^2y + 3xy^3 + x^2$ **9.** $5n^3m - 2m^3 + n^2m^4 + n^2$

10. $a^3b^2c + 2a^5c + b^3c^2$ **11.** $10s^2t^2 + 4st^2 - 5s^3t^2$

Arrange the terms of each polynomial so that the powers of x are in ascending order.

12. $8x^2 - 15 + 5x^5$ **13.** $10bx - 7b^2 + x^4 + 4b^2x^3$

14. $-3x^3y + 8y^2 + xy^4$ **15.** $7ax - 12 + 3ax^3 + a^2x^2$

Arrange the terms of each polynomial so that the powers of x are in descending order.

16. $13x^2 - 5 + 6x^3 - x$ **17.** $4x + 2x^5 - 6x^3 + 2$

18. $g^2x - 3gx^3 + 7g^3 + 4x^2$ **19.** $-11x^2y^3 + 6y - 2xy + 2x^4$

20. $7a^2x^2 + 17 - a^3x^3 + 2ax$ **21.** $12rx^3 + 9r^6 + r^2x + 8x^6$

22. MONEY Write a polynomial to represent the value of t ten-dollar bills, f fifty-dollar bills, and h one-hundred-dollar bills.

23. GRAVITY The height above the ground of a ball thrown up with a velocity of 96 feet per second from a height of 6 feet is $6 + 96t - 16t^2$ feet, where t is the time in seconds. According to this model, how high is the ball after 7 seconds? Explain.