Extra Practice

Lesson 8-4

(pages 432–436)

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

1. $5x^2y + 3xy - 7$ yes; trinomial
2. 0 yes; monomial
3. $\frac{5}{k} - k^2y$ no
4. $3a^2x - 5a$ yes; binomial

Find the degree of each polynomial.

5. $a + 5c$ 1
6. $14abcd - 6d^3$ 4
7. $\frac{a^3}{4}$ 3
8. 10 0
9. $-4h^5$ 5
10. $\frac{x^2}{3} - \frac{x}{2} + \frac{1}{5}$ 2
11. -6 0
12. $a^2b^3 - a^3b^2$ 5

Arrange the terms of each polynomial so that the powers of x are in ascending order. 13–18. See margin.

13. $2x^2 - 3x + 4x^3 - x^5$
14. $x^3 - x^2 + x - 1$
15. $2a + 3ax^2 - 4ax$
16. $-5bx^3 - 2bx + 4x^2 - b^3$
17. $x^8 + 2x^2 - x^6 + 1$
18. $cdx^2 - c^2d^2x + d^3$

Arrange the terms of each polynomial so that the powers of x are in descending order. 19–24. See margin.

19. $5x^2 - 3x^3 + 7 + 2x$
20. $-6x + x^5 + 4x^3 - 20$
21. $5b + b^3x^2 + \frac{2}{3}bx$
22. $21p^2x + 3px^3 + p^4$
23. $3ax^2 - 6a^2x^3 + 7a^3 - 8x$
24. $\frac{1}{3}s^2x^3 + 4x^4 - \frac{2}{5}s^4x^2 + \frac{1}{4}x$

13. $-3x + 2x^2 + 4x^3 - x^5$
14. $-1 + x - x^2 + x^3$
15. $2a - 4ax + 3ax^2$
16. $-b^3 - 2bx + 4x^2 - 5bx^3$
17. $1 + 2x^2 - x^6 + x^8$
18. $d^3 - c^2d^2x + cdx^2$
19. $-3x^3 + 5x^2 + 2x + 7$
20. $x^5 + 4x^3 - 6x - 20$
21. $b^3x^2 + \frac{2}{3}bx + 5b$
22. $3px^3 + 21p^2x + p^4$
23. $-6a^2x^3 + 3ax^2 - 8x + 7a^3$
24. $4x^4 + \frac{1}{3}s^2x^3 - \frac{2}{5}s^4x^2 + \frac{1}{4}x$