

8-1 Practice

Adding and Subtracting Polynomials

Find each sum or difference.

1. $(4y + 5) + (-7y - 1)$

2. $(-x^2 + 3x) - (5x + 2x^2)$

3. $(4k^2 + 8k + 2) - (2k + 3)$

4. $(2m^2 + 6m) + (m^2 - 5m + 7)$

5. $(4y^2 + 2y - 8) - (7y^2 + 4 - y)$

6. $(w^2 - 4w - 1) + (-5 + 5w^2 - 3w)$

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial*, *binomial*, or *trinomial*.

7. $7a^2b + 3b^2 - a^2b$

8. $\frac{1}{5}y^3 + y^2 - 9$

9. $6g^2h^3k$

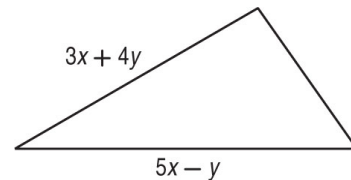
10. $\frac{x + 3x^4 - 21x^2}{x^3}$

Write each polynomial in standard form. Identify the leading coefficient.

11. $8x^2 - 15 + 5x^5$

12. $10x - 7 + x^4 + 4x^3$

13. **GEOMETRY** The measures of two sides of a triangle are given. If P is the perimeter, and $P = 10x + 5y$, find the measure of the third side.



8-2 Practice

Multiplying a Polynomial by a Monomial

Find each product.

14. $2h(-7h^2 - 4h)$

15. $6pq(3p^2 + 4q)$

16. $-3rt(-2t^2 + 3r)$

17. $-\frac{2}{3}n^2(-9n^2 + 3n + 6)$

Simplify each expression.

18. $-2\ell(3\ell - 4) + 7\ell$

19. $5w(-7w + 3) + 2w(-2w^2 + 19w + 2)$

20. $-3g(7g - 2) + 3(g^2 + 2g + 1) - 3g(-5g + 3)$

Solve each equation.

21. $5(2t - 1) + 3 = 3(3t + 2)$

22. $u(u - 5) + 8u = u(u + 2) - 4$

8-3 Practice

Multiplying Polynomials

Find each product.

23. $(q + 6)(q + 5)$

24. $(n - 4)(n - 6)$

25. $(6a - 3)(7a - 4)$

26. $(4g + 3h)(2g + 3h)$

27. $(m + 5)(m^2 + 4m - 8)$

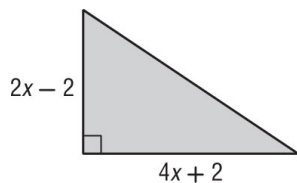
28. $(3d + 3)(2d^2 + 5d - 2)$

29. $(3n^2 + 2n - 1)(2n^2 + n + 9)$

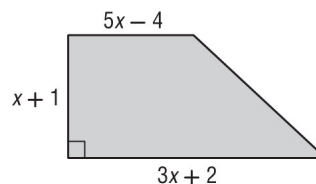
30. $(3y^2 + 2y + 2)(3y^2 - 4y - 5)$

GEOMETRY Write an expression to represent the area of each figure.

31.



32.

33. **NUMBER THEORY** Let x be an even integer. What is the product of the next two consecutive even integers?34. **GEOMETRY** The volume of a rectangular pyramid is one third the product of the area of its base and its height. Find an expression for the volume of a rectangular pyramid whose base has an area of $3x^2 + 12x + 9$ square feet and whose height is $x + 3$ feet.