EXAMPLE 2
on p. 11
for Exs. 16–24

ORDER OF OPERATIONS **Evaluate the expression for the given value of the variable.**

16. $5d - 6$ when $d = 7$

17. $-10f + 15$ when $f = 2$

18. $6h \div 2 + h$ when $h = 4$

19. $5j - 3j \cdot 5$ when $j = 10$

20. $(k + 2)^2 - 6k$ when $k = 5$

21. $8m + (2m - 9)^3$ when $m = 6$

22. $n^3 - 4n + 10$ when $n = -3$

23. $2x^4 - 4x^3$ when $x = -1$

Animated Algebra at classzone.com

24. **TAKS REASONING** What is the value of $2x^2 - 6x + 15$ when $x = -2$?

Ⓐ 11 Ⓑ 19 Ⓒ 35 Ⓓ 43

EXAMPLE 4
on p. 12
for Exs. 25–33

SIMPLIFYING EXPRESSIONS **Simplify the expression.**

25. $9x - 4x + 5$

26. $y^2 + 2y + 3y^2$

27. $5z^2 - 2z + 8z^2 + 10$

28. $10w^2 - 4w + 3w^2 + 18w$

29. $7(m - 3) + 4(m + 5)$

30. $10(n^2 + n) - 6(n^2 - 2)$

31. $4p^2 - 12p - 9p^2 + 3(4p + 7)$

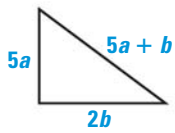
32. $6(q - 2) - 2(q^2 + 6q)$

33. **TAKS REASONING** Which terms are like terms?

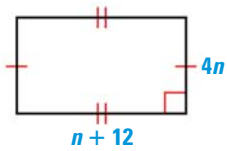
Ⓐ $2x, 2y$ Ⓑ $3x^2, 4x$ Ⓒ x^2, y^2 Ⓓ $10x^3, 2x^3$

GEOMETRY **Write a simplified expression for the perimeter of the figure. Then evaluate the expression for the given value(s) of the variable(s).**

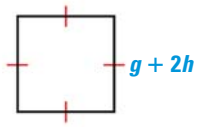
34. $a = 3, b = 10$



35. $n = 2$



36. $g = 5, h = 4$



EVALUATING EXPRESSIONS **Evaluate the expression for the given values of x and y.**

37. $5x + 6y$ when $x = 16$ and $y = -9$

38. $16x + 11y$ when $x = -2$ and $y = -3$

39. $x^3 + 5y$ when $x = 4$ and $y = -3$

40. $(3x)^2 - y^3$ when $x = 4$ and $y = 5$

HINT
Fraction bars are grouping symbols.

41. $\dfrac{x - y}{x + y}$ when $x = 10$ and $y = 8$

42. $\dfrac{x + 2y}{4x - y}$ when $x = -3$ and $y = 4$

SIMPLIFYING EXPRESSIONS **Simplify the expression.**

43. $16c - 10d + 3d - 5c$

44. $9j + 4k - 2j - 7k$

45. $2m^2 - 5n^2 + 6n^2 - 8m$

46. $p^3 + 3q^2 - q + 3p^3$

47. $10m^2 + 3n - 8 + 3m^2 - 3n + 3$

48. $3y^2 + 5x - 12x + 9y^2 - 5$

49. $8(s - t) + 16(t - s)$

50. $3(x^2 - y) + 9(x^2 + 2y)$

51. **OPEN-ENDED MATH** Write an algebraic expression that includes three coefficients, two like terms, and one constant term. Then simplify the expression.

= WORKED-OUT SOLUTIONS on p. WS1 = TAKS PRACTICE AND REASONING = MULTIPLE REPRESENTATIONS