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|---|---|
| 41. $(6 - (-3)^2)^2$ | 42. $(5 - (-4)^2)^2$ |
| 43. $(12 - 3^3) - 12 \cdot 5$ | 44. $(42 - 4^3) - 6 \cdot 8$ |
| 45. $-(18 \div 3^2)^2 - 54 \div (-3)^2$ | 46. $-(100 \div 5^2)^2 - 72 \div (-6)^2$ |
| 47. $\frac{(-4)^2 - 3^2}{5 - 3 \cdot 4}$ | 48. $\frac{5^2 - (-3)^2}{4 - 2 \cdot 4}$ |
| 49. $\frac{-3(13 - 15) - 8(5 - 3)}{4(-2) - 2 - (-5)}$ | 50. $\frac{-4(4 - 6) - 4(2 - 3)}{-4 - 2(-5)}$ |

Determine whether or not the given integer value is a solution to the equation.

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| 51. $5x - 3 = 7; x = 2$ | 52. $5x - 3 = 7; x = -2$ |
| 53. $4a + 1 = -15; a = 4$ | 54. $4a + 1 = -15; a = -4$ |
| 55. $-3x + 2 = -16; x = 6$ | 56. $-3x + 2 = -16; x = -6$ |
| 57. $-8x + 1 = 17; x = 2$ | 58. $-8x + 1 = 17; x = -2$ |
| 59. $5y + 3 = 4y - 1; y = -4$ | 60. $5y + 3 = 4y - 1; y = 4$ |
| 61. $6x - 5 = 4x - 11; x = 3$ | 62. $6x - 5 = 4x - 11; x = -3$ |
| 63. $\frac{t}{2} - 4 = \frac{t}{3} - 3; t = 6$ | 64. $\frac{t}{2} - 4 = \frac{t}{3} - 3; t = -6$ |
| 65. $\frac{s}{-3} - 6 = \frac{s}{4} + 1; s = 12$ | 66. $\frac{s}{-3} - 6 = \frac{s}{4} + 1; s = -12$ |
| 67. $x^2 = 4x; x = 4$ | 68. $x^2 = 4x; x = -4$ |
| 69. $w^2 - 5w = w - 8; w = -2$ | 70. $w^2 - 5w = w - 8; w = 2$ |

Answer the following questions.

71. What number must be subtracted from -8 to yield -23 ?
72. What number must be subtracted from 4 to yield 12 ?
73. What number must be divided by -4 to yield -9 ?
74. What number must be divided by 6 to yield -25 ?
75. If the sum of -8 and -4 is divided by the sum of 8 and -10 , what is the result?
76. If the sum of -12 and -13 is divided by the sum of 2 and -7 , what is the result?
77. If the sum of -9 and -12 is divided by the difference of 7 and 10 , what is the result?
78. If the difference of -8 and 20 is divided by the difference of -2 and 5 , what is the result?
79. If the sum of -8 and 5 is multiplied by the difference of 5 and 14 , what is the result?
80. If the sum of -4 and -9 is multiplied by the difference of -6 and 13 , what is the result?

Terminology

order of operations

Exercise Set 2.6

Compute each exponent.

1. $(-6)^2$

3. -10^2

5. $(-3)^3$

7. -2^5

9. $-(-2)^4$

2. -6^2

4. $(-10)^2$

6. -3^3

8. $(-2)^5$

10. $-(-2)^6$

Compute the following expressions. Remember to use order of operations in computing the values.

11. $3 \cdot 4 - 5(8 - 2)$

13. $3 \cdot 4^2 - 4 \cdot 3^2$

15. $-12 - 4(4 - 5 \cdot 3)$

17. $(-8)(-3) - 4(-6)$

19. $(-5)^2 - (-6)^2$

21. $-12(-2)^2 - 5(-3)^3$

23. $8 - 12(5 - 13)$

25. $13 - 8(9 - 4)$

27. $22 - 13(9 - 2^2)$

29. $(-6)^2 - 8(3 - 9)$

31. $|-5|^2 - 4(3 - |-9|)$

33. $-6(-4 - 7) + 5(3 - 9)$

35. $-(9 - 4^2)^2$

37. $(6 - 8)^2 - (4 - 7)^3$

39. $(-6 - 2)^2 - (-4 + 2)^3$

12. $5 \cdot 6 - 7(10 - 3)$

14. $6 \cdot 3^2 - 8 \cdot 4^2$

16. $-15 - 5(3 - 4 \cdot 3)$

18. $(-9)(-3) - 5(-7)$

20. $(-8)^2 - (-9)^2$

22. $-8(-2)^4 - 6(-4)^2$

24. $6 - 15(6 - 11)$

26. $15 - 7(12 - 6)$

28. $15 - 7(15 - 3^2)$

30. $(-5)^2 - 11(2 - 7)$

32. $|-6|^2 - 8(7 - |-12|)$

34. $-5(-5 - 4) + 4(2 - 11)$

36. $-(14 - 5^2)^2$

38. $(4 - 9)^2 - (-3 - 2)^3$

40. $(-3 - 2)^3 - (-5 + 2)^2$