Practice 1-2

Exponents and Order of Operations

Simplify each expression.

1. $4 + 6(8)$

2. $\dfrac{4(8 - 2)}{3 + 9}$

3. $4 \times 3^2 + 2$

4. $40 \div 5(2)$

5. $2.7 + 3.6 \times 4.5$

6. $3[4(8 - 2) + 5]$

7. $4 + 3(15 - 2^3)$

8. $17 - [(3 + 2) \times 2]$

9. $6 \times (3 + 2) \div 15$

Evaluate each expression.

10. $\dfrac{a + 2b}{5}$ for $a = 1$ and $b = 2$

11. $\dfrac{5m + n}{5}$ for $m = 6$ and $n = 15$

12. $x + 3y^2$ for $x = 3.4$ and $y = 3$

13. $7a - 4(b + 2)$ for $a = 5$ and $b = 2$

Simplify each expression.

14. $\dfrac{100 - 15}{9 + 8}$

15. $\dfrac{2(3 + 4)}{7}$

16. $\dfrac{3(4 + 12)}{2(7 - 3)}$

17. $14 + 3 \times 4$

18. $8 + 3(4 + 3)$

19. $3 + 4[13 - 2(6 - 3)]$

20. $8(5 + 30 \div 5)$

21. $(3.4)(2.7) + 5$

22. $50 \div 2 + 15 \times 4$

23. $7(9 - 5)$

24. $2(3^2) - 3(2)$

25. $4 + 8 \div 2 + 6 \times 3$

26. $(7 + 8) \div (4 - 1)$

27. $5[2(8 + 5) - 15]$

28. $(6 + 8) \times (8 - 4)$

29. $12\left(\dfrac{6 + 30}{9 - 3}\right)$

30. $14 + 6 \times 2^3 - 8 \div 2^2$

31. $\dfrac{7(14) - 3(6)}{2}$

32. $14 \div [3(8 - 2) - 11]$

33. $3\left(\dfrac{9 + 13}{6}\right)$

34. $\dfrac{4(8 - 3)}{3 + 2}$

35. $5 + 4^2 \times 8 - 2^3 \div 2^2$

36. $4^2 + 5^2(8 - 3)$

37. $5(3^2 + 2) - 2(6^2 - 5^2)$

Evaluate each expression for $a = 2$ and $b = 6$.

38. $2(7a - b)$

39. $(a^3 + b^2) \div a$

40. $3b \div (2a - 1) + b$

41. $\dfrac{5a + 2}{b}$

42. $\dfrac{3(b - 2)}{4(a + 1)}$

43. $9b + a^4 \div 8$

**Use the expression $r + 0.12m$ to calculate the cost of renting a car.
The basic rate is r. The number of miles driven is m.**

44. The basic rate is $15.95. The car is driven 150 mi.

45. The basic rate is $32.50. The car is driven 257 mi.

Evaluate each expression for $s = 3$ and $t = 9$.

46. $8(4s - t)$

47. $(2t - 3s) \div 4$

48. $t^2 - s^4$

49. $s(3t + 6)$

50. $\dfrac{5s^2}{t}$

51. $\dfrac{2t^2}{s^3}$