

Practice 1-2

Exponents and Order of Operations

Simplify each expression.

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|----------------------|------------------------------|-------------------------------|
| 1. $4 + 6(8)$ | 2. $\frac{4(8 - 2)}{3 + 9}$ | 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.

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|--|---|
| 10. $\frac{a + 2b}{5}$ for $a = 1$ and $b = 2$ | 11. $\frac{5m + n}{5}$ 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.

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|---|--------------------------------------|----------------------------------|
| 14. $\frac{100 - 15}{9 + 8}$ | 15. $\frac{2(3 + 4)}{7}$ | 16. $\frac{3(4 + 12)}{2(7 - 3)}$ |
| 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. $12\left(\frac{6 + 30}{9 - 3}\right)$ | 30. $14 + 6 \times 2^3 - 8 \div 2^2$ | 31. $\frac{7(14) - 3(6)}{2}$ |
| 32. $14 \div [3(8 - 2) - 11]$ | 33. $3\left(\frac{9 + 13}{6}\right)$ | 34. $\frac{4(8 - 3)}{3 + 2}$ |
| 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 $b = 6$.

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|------------------------|---------------------------------|----------------------------|
| 38. $2(7a - b)$ | 39. $(a^3 + b^2) \div a$ | 40. $3b \div (2a - 1) + b$ |
| 41. $\frac{5a + 2}{b}$ | 42. $\frac{3(b - 2)}{4(a + 1)}$ | 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 $t = 9$.

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|-----------------|------------------------|------------------------|
| 46. $8(4s - t)$ | 47. $(2t - 3s) \div 4$ | 48. $t^2 - s^4$ |
| 49. $s(3t + 6)$ | 50. $\frac{5s^2}{t}$ | 51. $\frac{2t^2}{s^3}$ |