

Chapter 3

Solve the equation. Check your solution.

3.1 1. $x + 4 = 20$ 2. $8 = m - 13$ 3. $t + 2 = -10$ 4. $z - 8 = -7$

5. $7h = 63$ 6. $-4t = -44$ 7. $\frac{b}{4} = 13$ 8. $\frac{y}{-3} = 8$

3.2 9. $4x + 3 = 27$ 10. $6m - 4 = 14$ 11. $50 = 7y - 6$

12. $\frac{t}{4} - 3 = 9$ 13. $\frac{x}{7} + 3 = -2$ 14. $6p - 2p = 28$

3.3 15. $6x + 3x + 8 = 35$ 16. $12w - 5 - 3w = 40$ 17. $4d - 3 - 2d = -15$

18. $7m + 3(m + 2) = -24$ 19. $5x - 3(x - 5) = 13$ 20. $\frac{3}{4}(2y - 8) = 6$

3.4 21. $8x - 4 = 3x + 6$ 22. $10 - 2x = 3x - 20$ 23. $5 - 5x = 14 - 8x$

24. $3(2y - 5) = 4y - 7$ 25. $9 + 4y = 2(3 - y)$ 26. $3x - 3 = \frac{3}{4}(2x + 12)$

3.5 Solve the proportion. Check your solution.

27. $\frac{7}{2} = \frac{x}{16}$ 28. $\frac{m}{9} = \frac{6}{27}$ 29. $\frac{z}{4} = \frac{48}{12}$ 30. $\frac{30}{50} = \frac{t}{10}$

3.5 Write the sentence as a proportion. Then solve the proportion.

31. 5 is to 7 as 15 is to x . 32. 9 is to 3 as x is to 12.

33. g is to 9 as 16 is to 12. 34. 6 is to 18 as y is to 3.

3.6 Solve the proportion. Check your solution.

35. $\frac{12}{x} = \frac{6}{7}$ 36. $\frac{6x}{4} = \frac{18}{12}$ 37. $\frac{7}{x + 13} = \frac{4}{12}$ 38. $\frac{y + 5}{y} = \frac{10}{8}$

39. $\frac{2x + 6}{x} = \frac{7}{2}$ 40. $\frac{3b}{5b - 7} = \frac{8}{11}$ 41. $\frac{8}{2x + 12} = \frac{6}{x + 8}$ 42. $\frac{4.8 - 2x}{8} = \frac{0.4 + x}{10}$

3.7 Use a proportion to answer the question.

43. What percent of 96 is 12? 44. What number is 35% of 18?

45. 14 is 40% of what number? 46. What percent of 125 is 30?

3.7 Use the percent equation to answer the question.

47. What number is 250% of 18? 48. What percent of 58 is 8.7?

49. 30.1 is 35% of what number? 50. What number is 70% of 250?

3.8 Solve the literal equation for x . Then use the solution to solve the specific equation.

51. $ax - b = c$; $6x - 5 = 25$ 52. $a(b - x) = c$; $2(8 - x) = -6$

3.8 Write the equation so that y is a function of x .

53. $5x + y = 10$ 54. $8x - 2y = 16$ 55. $7x + 3y = 6 - 5x$ 56. $21 = 6x + 7y$