

Chapter 3

Solve the equation. Check your solution.

- 3.1 1. $x + 4 = 20$ 16 2. $8 = m - 13$ 21 3. $t + 2 = -10$ -12 4. $z - 8 = -7$ 1
5. $7h = 63$ 9 6. $-4t = -44$ 11 7. $\frac{b}{4} = 13$ 52 8. $\frac{y}{-3} = 8$ -24
- 3.2 9. $4x + 3 = 27$ 6 10. $6m - 4 = 14$ 3 11. $50 = 7y - 6$ 8
12. $\frac{t}{4} - 3 = 9$ 48 13. $\frac{x}{7} + 3 = -2$ -35 14. $6p - 2p = 28$ 7
- 3.3 15. $6x + 3x + 8 = 35$ 3 16. $12w - 5 - 3w = 40$ 5 17. $4d - 3 - 2d = -15$ -6
18. $7m + 3(m + 2) = -24$ -3 19. $5x - 3(x - 5) = 13$ -1 20. $\frac{3}{4}(2y - 8) = 6$ 8
3.4 21. $8x - 4 = 3x + 6$ 2 22. $10 - 2x = 3x - 20$ 6 23. $5 - 5x = 14 - 8x$ 3
24. $3(2y - 5) = 4y - 7$ 4 25. $9 + 4y = 2(3 - y)$ $-\frac{1}{2}$ 26. $3x - 3 = \frac{3}{4}(2x + 12)$ 8

3.5 Solve the proportion. Check your solution.

27. $\frac{7}{2} = \frac{x}{16}$ 56 28. $\frac{m}{9} = \frac{6}{27}$ 2 29. $\frac{z}{4} = \frac{48}{12}$ 16 30. $\frac{30}{50} = \frac{t}{10}$ 6

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

31. 5 is to 7 as 15 is to x . $\frac{5}{7} = \frac{15}{x}$; 21 32. 9 is to 3 as x is to 12. $\frac{9}{3} = \frac{x}{12}$; 36
33. g is to 9 as 16 is to 12. $\frac{g}{9} = \frac{16}{12}$; 12 34. 6 is to 18 as y is to 3. $\frac{6}{18} = \frac{y}{3}$; 1

3.6 Solve the proportion. Check your solution.

35. $\frac{12}{x} = \frac{6}{7}$ 14 36. $\frac{6x}{4} = \frac{18}{12}$ 1 37. $\frac{7}{x+13} = \frac{4}{12}$ 8 38. $\frac{y+5}{y} = \frac{10}{8}$ 20
39. $\frac{2x+6}{x} = \frac{7}{2}$ 4 40. $\frac{3b}{5b-7} = \frac{8}{11}$ 8 41. $\frac{8}{2x+12} = \frac{6}{x+8}$ -2 42. $\frac{4.8-2x}{8} = \frac{0.4+x}{10}$ 1.1

3.7 Use a proportion to answer the question.

43. What percent of 96 is 12? 12.5% 44. What number is 35% of 18? 6.3
45. 14 is 40% of what number? 35 46. What percent of 125 is 30? 24%

3.7 Use the percent equation to answer the question.

47. What number is 250% of 18? 45 48. What percent of 58 is 8.7? 15%
49. 30.1 is 35% of what number? 86 50. What number is 70% of 250? 175

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

51. $ax - b = c$; $6x - 5 = 25$ $x = \frac{c+b}{a}$; 5 52. $a(b-x) = c$; $2(8-x) = -6$ $x = b - \frac{c}{a}$; 11

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

53. $5x + y = 10$
 $y = -5x + 10$ 54. $8x - 2y = 16$
 $y = 4x - 8$ 55. $7x + 3y = 6 - 5x$
 $y = -4x + 2$ 56. $21 = \frac{6x+7y}{8}$
 $y = -\frac{6}{7}x + 3$