

Practice 2-2

Solving Two-Step Equations

Solve each equation. Check your answer.

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| 1. $5a + 2 = 7$ | 2. $2x + 3 = 7$ | 3. $3b + 6 = 12$ |
| 4. $9 = 5 + 4t$ | 5. $4a + 1 = 13$ | 6. $-t + 2 = 12$ |

Write an equation to model each situation. Then solve.

- You want to buy a bouquet of yellow roses and baby's breath for \$16. The baby's breath costs \$3.50 per bunch, and the roses cost \$2.50 each. You want one bunch of baby's breath and some roses for your bouquet. How many roses can you buy?
- Suppose you walk at the rate of 210 ft/min. You need to walk 10,000 ft. How many more minutes will it take you to finish if you have already walked 550 ft?
- Suppose you have shelled 6.5 lb of pecans, and you can shell pecans at a rate of 1.5 lb per hour. How many more hours will it take you to shell a total of 11 lb of pecans?
- To mail a first class letter, the U.S. Postal Service charges \$.34 for the first ounce and \$.21 for each additional ounce. It costs \$1.18 to mail your letter. How many ounces does your letter weigh?
- Suppose you want to buy one pair of pants and several pairs of socks. The pants cost \$24.95, and the socks are \$5.95 per pair. How many pairs of socks can you buy if you have \$50.00 to spend?

Solve each equation. Check your answer.

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| 12. $5.8n + 3.7 = 29.8$ | 13. $67 = -3y + 16$ | 14. $-d + 7 = 3$ |
| 15. $\frac{m}{9} + 7 = 3$ | 16. $6.78 + 5.2x = -36.9$ | 17. $5z + 9 = -21$ |
| 18. $3x - 7 = 35$ | 19. $36.9 = 3.7b - 14.9$ | 20. $4s - 13 = 51$ |
| 21. $9f + 16 = 70$ | 22. $11.6 + 3a = -16.9$ | 23. $-9 = -\frac{h}{12} + 5$ |
| 24. $-c + 2 = 5$ | 25. $-67 = -8n + 5$ | 26. $22 = 7 - 3a$ |
| 27. $\frac{k}{3} - 19 = -26$ | 28. $-21 = \frac{n}{3} + 2$ | 29. $3x + 5.7 = 15$ |
| 30. $\frac{a}{5} - 2 = -13$ | 31. $2x + 23 = 49$ | 32. $\frac{x}{2} + 8 = -3$ |

Justify each step.

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|-----------------------------|-----------------------------------|----------------------------------|
| 33. $24 - x = -16$ | 34. $\frac{x}{7} + 4 = 15$ | 35. $-8 = 2x - 5$ |
| a. $24 - x - 24 = -16 - 24$ | a. $\frac{x}{7} + 4 - 4 = 15 - 4$ | a. $-8 + 5 = 2x - 5 + 5$ |
| b. $-x = -40$ | b. $\frac{x}{7} = 11$ | b. $-3 = 2x$ |
| c. $-1(-x) = -1(-40)$ | c. $7(\frac{x}{7}) = 7(11)$ | c. $-\frac{3}{2} = \frac{2x}{2}$ |
| d. $x = 40$ | d. $x = 77$ | d. $-\frac{3}{2} = x$ |