

Practice

Write and solve the equations shown by the tiles.

1.



2.



Solve.

- 3. $5x + 1 = 4x + 7$
- 4. $6y + 2 = 7y - 4$
- 5. $3m + 2 = m + 4$
- 6. $7n + 6 = 4n - 6$
- 7. $9t + 4 = 5t - 8$
- 8. $4s - 2 = 2s + 10$
- 9. $8x - 10 = -2x - 20$
- 10. $3y - 5 = -2y + 20$

Solve.

- 11. $2x = -30 + 5x$
- 12. $7y = 20 + 3y$
- 13. $3t = -12 + 7t$
- 14. $12s = -36 + 6s$
- 15. $2a = 0.35 - 5a$
- 16. $4n = 3.6 - 2n$

Solve.

- 17. $2x + 3x = 8x - 3$
- 18. $5x - 4x = -x + 6$
- 19. $3y + y = 2y - 8$
- 20. $5a - 3a = 6 - a$
- 21. $6s + 4s = 20 + 5s$
- 22. $3t + 3t = -9 + 9t$
- 23. $6r + 4r = 16 + 2r$
- 24. $7x - 4x = x - 10$

Solve.

- 25. $5x - 3x = 4x - 2$
- 26. $7x - 4x = x + 6$
- 27. $3y + 5y = 5y - 6$
- 28. $4t - 7t = -7 - 2$
- 29. $3s - 5s = 3 + 7$
- 30. $6j - 7j = 3j + 12$
- 31. $5a - 2a = 5a - 8$
- 32. $8y = 5y + y + 14$

Solve.

- 33. $15x - 7x = -52 - 5x$
- 34. $21y = -205 + 75 + 47y$
- 35. $7t + 6t = 14 - 53$
- 36. $m = 26.8 - 6.8 + 3m$
- 37. $2x = -8.4 - 3.6 - 4x$
- 38. $7y = 0.3 + 2.7 + 4y$
- 39. $3n = 10.1 + 9.9 - 2n$

Solve.

- 40. $2x + 10 = 9 + 11 - 3x$
- 41. $11s + 25 = 54 + 25 + 2s$
- 42. $65 + n = 85 - 16 + 3n$

Problems and Applications

43. Bill has x baseball cards. Abbas has $4x$ baseball cards. The number of cards Abbas has is equal to the number of cards Bill has plus 60. Solve the equation $x + 60 = 4x$ to find the number of cards Bill has.

44. Marlene scored y ringette goals. Lynn scored $3y$ goals. The number of goals that Marlene scored equals the number of goals Lynn scored minus 12. Solve the equation $y = 3y - 12$ to find the number of goals Marlene scored.

45. Solve for x . Assume the letters a , b , c , and y represent non-zero integers.

- a) $x + a = b + c + y$
- b) $a + (x - b) = c - y$
- c) $ax + b = c - y$
- d) $a(x - b) + y = c$
- e) $b + y = cx - a$
- f) $\frac{x}{a} + b - y = -c$

46. The average wind speed in Bonavista, Newfoundland, is twice the average wind speed in Whitehorse, Yukon Territory. The difference between the wind speeds is 14 km/h. Solve the equation $2x - 14 = x$ to find the average wind speed in Whitehorse.

47. The number of states in India is 1 more than 4 times the number of states in Australia. There are 19 more states in India than in Australia. Solve the equation $x + 19 = 4x + 1$ to find the number of states in Australia.

48. Write an equation with a variable on both sides and a solution of $x = -2$. Have a classmate solve your equation.