

Solving Linear Equations

Name _____

Multiple choice.

1. If $x + 37 = 78$, what is x ?

- (a) -36 (b) 36 (c) -41 (d) 41

2. If $x - 12 = 42$, what is x ?

- (a) 64 (b) 30 (c) 54 (d) 34

3. Which value of x will make the sentence true?

$$4x - 2 = 22$$

- (a) 5 (b) 6 (c) 16 (d) 20

4. If $4x + 6 = 54$, what is x ?

- (a) 7 (b) 12 (c) 13 (d) 8

5. If $\frac{n}{6} = -8$, what is n ?

- (a) -48 (b) 14 (c) 8 (d) 2

6. If $12x - 8 = 124$, what is x ?

- (a) 8 (b) 10 (c) 14 (d) 11

7. Solve for x : $x - 7 = -9$

- (a) 2 (b) -2 (c) -11 (d) -16

8. What number would replace n in this equation to make it true?

$$2n - 8 = 16$$

- (a) 4 (b) 6 (c) 8 (d) 12

9. Solve for x : $-2(x - 8) = 20$

- (a) -2 (b) -10 (c) -18 (d) 18

10. Dane is three years older than twice his brother's age, b . If the sum of their ages is 27, find Dane's age.
(a) 8 (b) 12 (c) 15 (d) 19
11. The sum of the distance, m , and 24, divided by 7, is 11. Find m .
(a) 18 (b) 31 (c) 53 (d) 77
12. Solve for n . $4n + 3 = 6n - 3$
(a) -3 (b) 3 (c) 0 (d) -0.6
13. Solve for x . $\frac{1}{3}x - \frac{5}{12} = \frac{3}{4} + \frac{1}{2}x$
(a) -7 (b) -1.4 (c) 2 (d) 7
14. Solve for x . $4x + 9 = 3 - (x - 2)$
(a) -9 (b) $-\frac{4}{5}$ (c) $-\frac{4}{3}$ (d) $\frac{14}{5}$
15. Solve for y . $6y - 3(y + 5) = 3(y - 2)$
(a) -15 (b) -6 (c) No solution (d) Any real number
16. Solve for a . $3(a + 6) - 2a = a + 18$
(a) 18 (b) -18 (c) No solution (d) Any real number
17. Solve for x . $0.30(40) + 0.25(300) = 0.60x$
(a) 86.4 (b) 52.2 (c) 145 (d) No solution
18. Solve for c . $4(2c - 1) = -6(c + 3)$
(a) 1 (b) $\frac{11}{7}$ (c) -7 (d) -1

Do your best!

Rise to the challenge!

Live and learn!

Solve for the variable.

19. $3x + 5 = 53$

20. $2(p - 3) = 3p + 4$

21. $\frac{c}{4} = 1.25$

22. $\frac{5}{2}x = -20$

23. $3 = 3(2y - 5) - (3y - 1)$

24. $-\frac{3}{7}x = -12$

25. $-7n + 3n = -3 + n + 20$

26. $-2q - 2 = -2$

27. $10w + 3 - 4w + 4 = -2w + 3 + 7w$

28. $-2(4 - x) = 3(2x + 5)$

29. $\frac{5}{2}x - 1 = \frac{2}{3}x + 4$

30. $\frac{3(x-2)}{5} = 3x + 6$

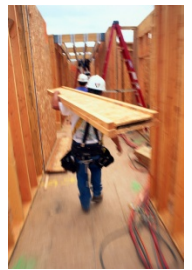
31. $\frac{7}{8}x + \frac{1}{2} = \frac{3}{4}x + 1$

32. $5(2 - x) + 8x = 3(x - 6)$

33. $-6(2x + 1) - 14 = -10(x + 2) - 2x$

34. $0.06x - 0.10(x - 2) = -0.02(8)$

35. When Fred started working with his company, he was given an hourly rate of \$8.50 per hour for regular hours (at most 40) and “time and a half” for overtime hours (over 40). If he earns \$442 one week, how many hours did he work?



36. A Japanese “bullet” train set a new world record for train speed at 361 miles per hour during a manned test run on the Yamanashi Maglev Test Line in 2003. How long does it take this train to travel 108.3 miles at this speed? Give the result in hours; then convert to minutes.



37. A wood deck is being built behind a house. The width is 12 feet. If there is 168 square feet of decking material, find the length of the deck.



38. (a) A 16-foot board is to be cut so that the longer piece is 5 times longer than the shorter piece. Find the length of each piece.

- (b) A 16-foot wire is to be cut so that the longer piece is 5 feet longer than the shorter piece. Find the length of each piece.