

Practice 2-4

Equations with Variables on Both Sides

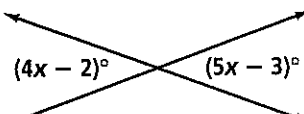
Solve each equation. Check your answer. If appropriate, write *identity* or *no solution*.

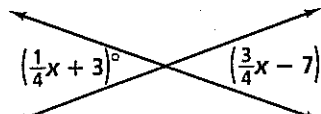
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|---|---|------------------------------------|
| - 1. $7 - 2n = n - 14$ | - 2. $2(4 - 2r) = -2(r + 5)$ | - 3. $3d + 8 = 2d - 7$ |
| - 4. $6t = 3(t + 4) - t$ | 5. $8z - 7 = 3z - 7 + 5z$ | - 6. $7x - 8 = 3x + 12$ |
| 7. $3(n - 1) = 5n + 3 - 2n$ | - 8. $2(6 - 4d) = 25 - 9d$ | - 9. $4s - 12 = -5s + 51$ |
| 10. $8(2f - 3) = 4(4f - 8)$ | - 11. $6k - 25 = 7 - 2k$ | - 12. $3v - 9 = 7 + 2v - v$ |
| 13. $4(b - 1) = -4 + 4b$ | 14. $\frac{1}{4}x + \frac{1}{2} = \frac{1}{4}x - \frac{1}{2}$ | - 15. $6 - 4d = 16 - 9d$ |
| - 16. $\frac{2}{3}a - \frac{3}{4} = \frac{3}{4}a$ | 17. $2s - 12 + 2s = 4s - 12$ | - 18. $3.6y = 5.4 + 3.3y$ |
| - 19. $4.3v - 6 = 8 + 2.3v$ | 20. $4b - 1 = -4 + 4b + 3$ | 21. $\frac{2}{3}(6x + 3) = 4x + 2$ |
| 22. $6y + 9 = 3(2y + 3)$ | 23. $4g + 7 = 5g - 1 - g$ | - 24. $2(n + 2) = 5n - 5$ |
| - 25. $6 - 3d = 5(2 - d)$ | - 26. $6.1h = 9.3 - 3.2h$ | - 27. $-4.4s - 2 = -5.5s - 4.2$ |
| 28. $3(2f + 4) = 2(3f - 6)$ | - 29. $\frac{3}{4}t - \frac{5}{6} = \frac{2}{3}t$ | 30. $3v + 8 = 8 + 2v + v$ |
| - 31. $\frac{1}{2}d - \frac{3}{4} = \frac{3}{5}d$ | - 32. $5(r + 3) = 2r + 6$ | - 33. $8 - 3(p - 4) = 2p$ |

Write an equation to model each situation. Then solve. Check your answer.

34. Hans needs to rent a moving truck. Suppose Company A charges a rate of \$40 per day and Company B charges a \$60 fee plus \$20 per day. For what number of days is the cost the same?
35. Suppose a video store charges nonmembers \$4 to rent each video. A store membership costs \$21 and members pay only \$2.50 to rent each video. For what number of videos is the cost the same?
36. Suppose your club is selling candles to raise money. It costs \$100 to rent a booth from which to sell the candles. If the candles cost your club \$1 each and are sold for \$5 each, how many candles must be sold to equal your expenses?

Find the value of x .

37. 

38. 

39. 