

Variables on both sides — ANSWER KEY

Solve. Collect the variable terms on one side first.

1. $-n - 14 = -3n + 4$

$n = \underline{\quad 9 \quad}$

2. $7t + 14 = 2t + 49$

$t = \underline{\quad 7 \quad}$

3. $7m + 12 = -m - 60$

$m = \underline{\quad -9 \quad}$

4. $2x + 14 = 5x + 14$

$x = \underline{\quad 0 \quad}$

5. $4m + 2 = 7m + 17$

$m = \underline{\quad -5 \quad}$

6. $-4y + 1 = -5y + 7$

$y = \underline{\quad 6 \quad}$

7. $7y + 13 = 8y + 18$

$y = \underline{\quad -5 \quad}$

8. $4m + 10 = 7m + 7$

$m = \underline{\quad 1 \quad}$

9. $5m = 7m + 6$

$m = \underline{\quad -3 \quad}$

10. $6y + 11 = 7y + 5$

$y = \underline{\quad 6 \quad}$

11. $8t + 6 = 5t + 21$

$t = \underline{\quad 5 \quad}$

12. $n - 7 = -4n + 38$

$n = \underline{\quad 9 \quad}$

Distributive property — ANSWER KEY

Solve. Distribute first, then collect like terms.

1. $-2(m + 7) = 9m - 91$

$m = \underline{\quad 7 \quad}$

2. $-2(m - 3) = -7m + 31$

$m = \underline{\quad 5 \quad}$

3. $5(y - 9) = -6y - 89$

$y = \underline{\quad -4 \quad}$

4. $3(x - 8) = -6x - 42$

$x = \underline{\quad -2 \quad}$

5. $-4(k - 1) = -8k - 8$

$k = \underline{\quad -3 \quad}$

6. $5(m - 8) - 10 = -95$

$m = \underline{\quad -9 \quad}$

7. $4(n - 9) - 13 = -81$

$n = \underline{\quad -8 \quad}$

8. $-6(x - 9) + 11 = 59$

$x = \underline{\quad 1 \quad}$

9. $5(n - 4) = 3n - 8$

$n = \underline{\quad 6 \quad}$

10. $-6(k - 2) = -9k - 6$

$k = \underline{\quad -6 \quad}$

11. $3(y - 6) - 15 = -36$

$y = \underline{\quad -1 \quad}$

12. $-6(t - 1) = -5t + 4$

$t = \underline{\quad 2 \quad}$

Combining like terms — ANSWER KEY

Solve. Combine like terms first.

1. $-2m + 6 - 7m = 6$

$m = \underline{\quad 0 \quad}$

2. $-9x + 10 + 5x = 34$

$x = \underline{\quad -6 \quad}$

3. $9k + 1 + 3k = 1$

$k = \underline{\quad 0 \quad}$

4. $-8t - 14 - t = 40$

$t = \underline{\quad -6 \quad}$

5. $-4n - 1 - 6n = -101$

$n = \underline{\quad 10 \quad}$

6. $5t - 7 - 7t = 9$

$t = \underline{\quad -8 \quad}$

7. $7y - 11 - 9y = 7$

$y = \underline{\quad -9 \quad}$

8. $-7t - 12 - 2t = 51$

$t = \underline{\quad -7 \quad}$

9. $-4x - 12 - 2x = 12$

$x = \underline{\quad -4 \quad}$

10. $7x - 1 + 5x = -13$

$x = \underline{\quad -1 \quad}$

11. $4t + 1 + 4t = -79$

$t = \underline{\quad -10 \quad}$

12. $9k + 14 - 4k = -21$

$k = \underline{\quad -7 \quad}$

Number of solutions — ANSWER KEY

Solve. Write the solution, or say if there is no solution or infinitely many solutions.

1. $6(t + 6) = 7t + 41$

Answer: $t = -5$

2. $-2(k + 2) = 4k + 26$

Answer: $k = -5$

3. $-2(x - 3) = -2x + 6$

Answer: **infinitely many solutions**

4. $-6(t + 5) = 6t - 102$

Answer: $t = 6$

5. $3(n - 7) = -9n + 15$

Answer: $n = 3$

6. $5(y - 7) = 6y - 33$

Answer: $y = -2$

7. $3(x + 2) = 5x + 14$

Answer: $x = -4$

8. $-5(y - 1) = -7y + 9$

Answer: $y = 2$

9. $-3(t - 6) = 6t + 81$

Answer: $t = -7$

10. $5(t + 6) = 2t + 30$

Answer: $t = 0$

11. $2(m + 6) = 2m + 12$

Answer: **infinitely many solutions**

12. $6(t + 4) = 6t + 24$

Answer: **infinitely many solutions**