

Multistep Equations Subtraction Worksheet

1. Solve for x : $3x - 7 = 14$
2. Solve for y : $2y - 5 = 3y + 6$
3. Solve for m : $5m - 9 = 2m + 12$
4. Solve for n : $4n - 3 = 2n + 9$
5. Solve for x : $7x - 8 = 5x + 10$
6. Solve for p : $6p - 11 = 3p + 4$
7. Solve for a : $8a - 15 = 2a + 3$
8. Solve for z : $9z - 20 = 3z + 10$
9. Solve for b : $10b - 7 = 2b + 25$
10. Solve for y : $12y - 18 = 4y + 14$
11. Solve for x : $4(2x - 5) - 3x = 3(x + 7) - 2x$
12. Solve for k : $5k - 2(3k - 4) = 4k + 6$
13. Solve for m : $2(m - 3) - 5 = 3(m + 2) - m$
14. Solve for z : $7(z - 2) - 2(z + 5) = 3z + 4$

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Answer Key

1. $3x - 7 = 14$

Add 7 to both sides: $3x = 21$

Divide by 3: $x = 7$

2. $2y - 5 = 3y + 6$

Subtract $2y$ from both sides: $-5 = y + 6$

Subtract 6 from both sides: $-11 = y$

So, $y = -11$

3. $5m - 9 = 2m + 12$

Subtract $2m$ from both sides: $3m - 9 = 12$

Add 9 to both sides: $3m = 21$

Divide by 3: $m = 7$

4. $4n - 3 = 2n + 9$

Subtract $2n$ from both sides: $2n - 3 = 9$

Add 3 to both sides: $2n = 12$

Divide by 2: $n = 6$

5. $7x - 8 = 5x + 10$

Subtract $5x$ from both sides: $2x - 8 = 10$

Add 8 to both sides: $2x = 18$

Divide by 2: $x = 9$

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6. $6p - 11 = 3p + 4$

Subtract $3p$ from both sides: $3p - 11 = 4$

Add 11 to both sides: $3p = 15$

Divide by 3: $p = 5$

7. $8a - 15 = 2a + 3$

Subtract $2a$ from both sides: $6a - 15 = 3$

Add 15 to both sides: $6a = 18$

Divide by 6: $a = 3$

8. $9z - 20 = 3z + 10$

Subtract $3z$ from both sides: $6z - 20 = 10$

Add 20 to both sides: $6z = 30$

Divide by 6: $z = 5$

9. $10b - 7 = 2b + 25$

Subtract $2b$ from both sides: $8b - 7 = 25$

Add 7 to both sides: $8b = 32$

Divide by 8: $b = 4$

10. $12y - 18 = 4y + 14$

Subtract $4y$ from both sides: $8y - 18 = 14$

Add 18 to both sides: $8y = 32$

Divide by 8: $y = 4$

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11. $4(2x - 5) - 3x = 3(x + 7) - 2x$

Expand: $8x - 20 - 3x = 3x + 21 - 2x$

Simplify: $5x - 20 = x + 21$

Subtract x from both sides: $4x - 20 = 21$

Add 20 to both sides: $4x = 41$

Divide by 4: $x = \frac{41}{4}$

12. $5k - 2(3k - 4) = 4k + 6$

Expand: $5k - 6k + 8 = 4k + 6$

Simplify: $-k + 8 = 4k + 6$

Add k to both sides: $8 = 5k + 6$

Subtract 6 from both sides: $2 = 5k$

Divide by 5: $k = \frac{2}{5}$

13. $2(m - 3) - 5 = 3(m + 2) - m$

Expand: $2m - 6 - 5 = 3m + 6 - m$

Simplify: $2m - 11 = 2m + 6$

Subtract $2m$ from both sides: $-11 = 6$

This equation has no solution (contradiction).

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14. $7(z - 2) - 2(z + 5) = 3z + 4$

Expand: $7z - 14 - 2z - 10 = 3z + 4$

Simplify: $5z - 24 = 3z + 4$

Subtract $3z$ from both sides: $2z - 24 = 4$

Add 24 to both sides: $2z = 28$

Divide by 2: $z = 14$