

MP7 pg. 233

Example 1

Solve $x - 3 = 5$.

Solution

Add 3 to both sides of the equation.

$$\begin{aligned} x - 3 &= 5 \\ x - 3 + 3 &= 5 + 3 \\ x &= 8 \end{aligned}$$

Check:
 $8 - 3 = 5$

The solution is 8.



Example 2

Solve $x + 2 = 5$.

Solution

Add -2 to both sides.

$$\begin{aligned} x + 2 &= 5 \\ x + 2 + (-2) &= 5 + (-2) \\ x &= 5 - 2 \\ x &= 3 \end{aligned}$$

Check:
 $3 + 2 = 5$

The solution is 3.



Practice

What number would you add to both sides to solve each equation?

5. $1. x - 3 = 11$ $2. d - 1 = 5$ $3. n - 7 = 8$
 $4. m - 4 = 8$ $5. y - 10 = 3$ $6. z - 10 = 1$
 $7. x - 15 = 3$ $8. y - 19 = 1$ $9. t - 24 = 2$

What number would you add to both sides of these equations to solve them?

3. $10. x + 6 = 13$ $11. c + 1 = 8$ $12. y + 2 = 7$
 $13. m + 5 = 5$ $14. x + 3 = 9$ $15. z + 7 = 10$

Solve these equations.

6. $16. m - 5 = 4$ $17. n - 3 = 2$ $18. p - 7 = 3$
 $19. r - 7 = 9$ $20. s - 5 = 3$ $21. t - 8 = 5$
 $22. p + 11 = 19$ $23. y + 2 = 3$
 $24. r + 8 = 12$ $25. p + 5 = 11$

Solve the following equations.

- $26. m + 12 = 22$ $27. n + 15 = 35$
 $28. x + 7 = 17$ $29. y + 11 = 33$
 $30. y + 13 = 33$ $31. p + 17 = 37$
 $32. x - 12 = 22$ $33. y - 10 = 18$
 $34. m - 15 = 25$ $35. n - 11 = 33$
 $36. x - 21 = 31$ $37. y - 9 = 24$

Solve.

- $38. x + 3 = 5.8$ $39. y + 5 = 7.8$
 $40. m - 6 = 8.3$ $41. r - 7 = 9.8$
 $42. n + 2 = 4.4$ $43. p + 9 = 18.2$
 $44. m - 15 = 25$ $45. s - 4 = 4.5$
 $46. r + 6 = 12.7$ $47. t + 8 = 13.6$
 $48. p - 9 = 0.9$ $49. t - 5 = 7.8$

6

bonus!