

Two-step equations

Solve for the letter in each equation. Show your working, and write the answer on the line.

Name _____ Date _____

1. $6x - 11 = -35$

x = _____

2. $5 = \frac{a}{9} + 2$

a = _____

3. $7m - 3 = 11$

m = _____

4. $3(n - 4) = -18$

n = _____

5. $-4t - 3 = -35$

t = _____

6. $\frac{m}{6} - 4 = -9$

m = _____

7. $-2x - 12 = -32$

x = _____

8. $7(x + 2) = -21$

x = _____

9. $-2y - 18 = -20$

y = _____

10. $16 = \frac{p}{8} + 12$

p = _____

11. $23 = -2x - 1$

x = _____

12. $-3(y + 1) = -30$

y = _____

Two-step equations: answer key

Each equation worked one step a line. What was done to both sides is beside each step.

1. $6x - 11 = -35$

$6x = -24$ Add 11 to both sides.

$x = -4$ Divide both sides by 6.

Check: $6(-4) - 11 = -35$

2. $5 = \frac{a}{9} + 2$

$3 = \frac{a}{9}$ Subtract 2 from both sides.

$27 = a$ Multiply both sides by 9.

$a = 27$

Check: $5 = \frac{27}{9} + 2$

3. $7m - 3 = 11$

$7m = 14$ Add 3 to both sides.

$m = 2$ Divide both sides by 7.

Check: $7(2) - 3 = 11$

4. $3(n - 4) = -18$

$n - 4 = -6$ Divide both sides by 3.

$n = -2$ Add 4 to both sides.

Check: $3(-2 - 4) = -18$

5. $-4t - 3 = -35$

$-4t = -32$ Add 3 to both sides.

$t = 8$ Divide both sides by -4.

Check: $-4(8) - 3 = -35$

6. $\frac{m}{6} - 4 = -9$

$\frac{m}{6} = -5$ Add 4 to both sides.

$m = -30$ Multiply both sides by 6.

Check: $\frac{-30}{6} - 4 = -9$

7. $-2x - 12 = -32$

$-2x = -20$ Add 12 to both sides.

$x = 10$ Divide both sides by -2.

Check: $-2(10) - 12 = -32$

8. $7(x + 2) = -21$

$x + 2 = -3$ Divide both sides by 7.

$x = -5$ Subtract 2 from both sides.

Check: $7(-5 + 2) = -21$

9. $-2y - 18 = -20$

$-2y = -2$ Add 18 to both sides.

$y = 1$ Divide both sides by -2.

Check: $-2(1) - 18 = -20$

10. $16 = \frac{p}{8} + 12$

$4 = \frac{p}{8}$ Subtract 12 from both sides.

$32 = p$ Multiply both sides by 8.

$p = 32$

Check: $16 = \frac{32}{8} + 12$

11. $23 = -2x - 1$

$24 = -2x$ Add 1 to both sides.

$-12 = x$ Divide both sides by -2.

$x = -12$

Check: $23 = -2(-12) - 1$

12. $-3(y + 1) = -30$

$y + 1 = 10$ Divide both sides by -3.

$y = 9$ Subtract 1 from both sides.

Check: $-3(9 + 1) = -30$