

Grade 6 - Solving One-Step Equations - Answer Key

Common Core 6.EE.B.5, 6.EE.B.6, 6.EE.B.7 · maths-pdf.fr/en/

Check each equation solution here. The solutions show the inverse operation applied to both sides, a check by substitution, and the final answer in bold. Tape diagrams and balances illustrate several answers.

Grade 6 · Common Core State Standards: **6.EE.B.5**, **6.EE.B.6**, **6.EE.B.7**

Exercise 1 - Is it a solution? (addition)

$5+7=12$ is true.

Yes, 5 is a solution.

Exercise 2 - Is it a solution? (multiplication)

$3 \cdot 4 = 12$, and 12 is not 15.

No, 4 is not a solution.

Exercise 3 - Solve an addition equation

Subtract 9 from both sides: $x+9-9=20-9$.

Check: $11+9=20$.

$x=11$

Exercise 4 - Solve a subtraction equation

Add 6 to both sides: $x-6+6=14+6$.

Check: $20-6=14$.

$x=20$

Exercise 5 - Solve a multiplication equation

Divide both sides by 4: $x = 36 \div 4$.

Check: $4 \cdot 9 = 36$.

$$x = 9$$

Exercise 6 - Solve a division equation

Multiply both sides by 5: $x = 7 \cdot 5$.

Check: $35 \div 5 = 7$.

$$x = 35$$

Exercise 7 - Decimal addition

Subtract 3.5 from both sides: $x = 8.2 - 3.5 = 4.7$.

Check: $4.7 + 3.5 = 8.2$.

$$x = 4.7$$

Exercise 8 - Decimal multiplication

Divide both sides by 2.5: $x = 10 \div 2.5 = 4$.

Check: $2.5 \cdot 4 = 10$.

$$x = 4$$

Exercise 9 - Fraction addition

Subtract $\frac{1}{4}$: $x = \frac{3}{4} - \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$.

$$x = \frac{1}{2}$$

Exercise 10 - Fraction multiplication

Divide both sides by $\frac{2}{3}$, which is multiplying by $\frac{3}{2}$.

$$x = 8 \cdot \frac{3}{2} = 12. \text{ Check: } \frac{2}{3} \cdot 12 = 8.$$

$$x = 12$$

Exercise 11 - Decimal subtraction

$$\text{Add } 2.75: x = 5.25 + 2.75 = 8.$$

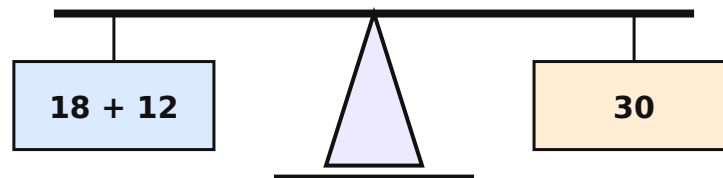
$$x = 8$$

Exercise 12 - Write and solve (sum)

$$\text{Equation: } n + 12 = 30.$$

$$n = 30 - 12 = 18. \text{ Check: } 18 + 12 = 30.$$

$$n = 18$$



Both sides equal 30.

Exercise 13 - Write and solve (difference)

$$\text{Equation: } n - 6 = 9.$$

$$n = 9 + 6 = 15. \text{ Check: } 15 - 6 = 9.$$

$$n = 15$$

Exercise 14 - Money spent

$$\text{Equation: } x - 14 = 23.$$

$$x = 23 + 14 = 37.$$

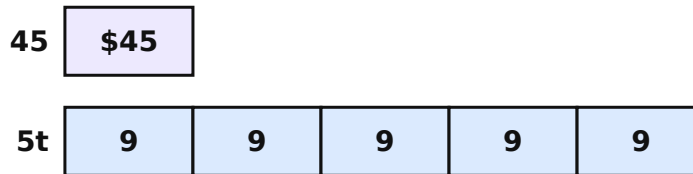
\$37.00

Exercise 15 - Tickets

Equation: $5t = 45$.

$$t = 45 \div 5 = 9.$$

\$9.00 per ticket



Each ticket is \$9.

Exercise 16 - Height

Equation: $h + 6 = 52$.

$$h = 52 - 6 = 46.$$

46 inches

Exercise 17 - Perimeter of a square

A square has 4 equal sides: $4s = 36$.

$$s = 36 \div 4 = 9.$$

9 feet

Exercise 18 - Equal groups

$$4g = 24.$$

$$g = 24 \div 4 = 6.$$

6 groups

Exercise 19 - Discount

$$p - 8 = 27.$$

$$p = 27 + 8 = 35.$$

\$35.00

Price p

27	8
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The original price is $27 + 8 = 35$ dollars.

Exercise 20 - Saving plan

$$x + 15 = 62, \text{ so } x = 62 - 15 = 47.$$

$$6w = 54, \text{ so } w = 54 \div 6 = 9.$$

\$47.00 saved at first; 9 weeks