

Grade 8 - Solving Linear Equations in One Variable - Quiz

Common Core 8.EE.C.7a, 8.EE.C.7b · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Pick the best answer for each of the 10 questions about solving linear equations with variables on both sides and equations with no or infinitely many solutions (Common Core 8.EE.C.7a and 8.EE.C.7b). Read each question carefully, then read the explanation to learn from any mistake.

Grade 8 · Common Core State Standards: **8.EE.C.7a**, **8.EE.C.7b**

Questions

Question 1

Solve $3x+7=22$.

- A. $x=3$
- B. $x=29$
- C. $x=\frac{15}{7}$
- D. $x=5$

Question 2

Solve $8x-5=3x+20$.

- A. $x=3$
- B. $x=15$
- C. $x=5$
- D. $x=25$

Question 3

How many solutions does $4x+3=4x+8$ have?

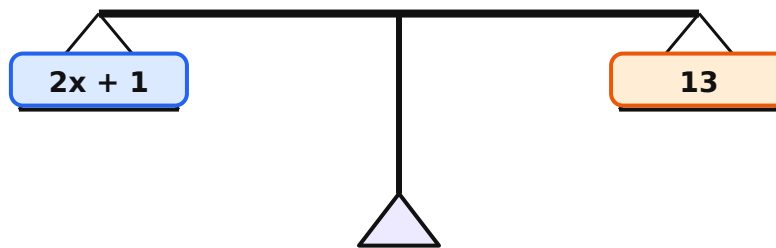
- A. No solution
- B. One solution
- C. Two solutions
- D. Infinitely many

Question 4

How many solutions does $2(x+5)=2x+10$ have?

- A. No solution
- B. Infinitely many
- C. One solution
- D. Exactly two

Question 5



Solve for x .

What value of x balances the scale?

- A. 6
- B. 7
- C. 5
- D. 12

Question 6

Solve $\frac{x}{4}+1=6$.

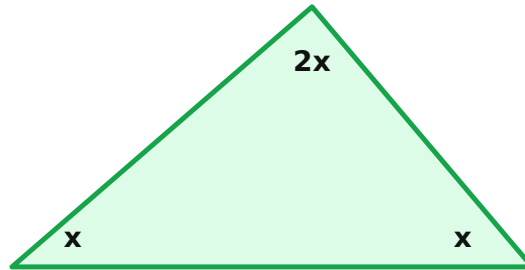
- A. $x=5$
- B. $x=20$
- C. $x=28$
- D. $x=24$

Question 7

Solve $2(x-4)=x+3$.

- A. $x=7$
- B. $x=-5$
- C. $x=5$
- D. $x=11$

Question 8



Angles of a triangle add to 180 degrees.

What is the value of x ?

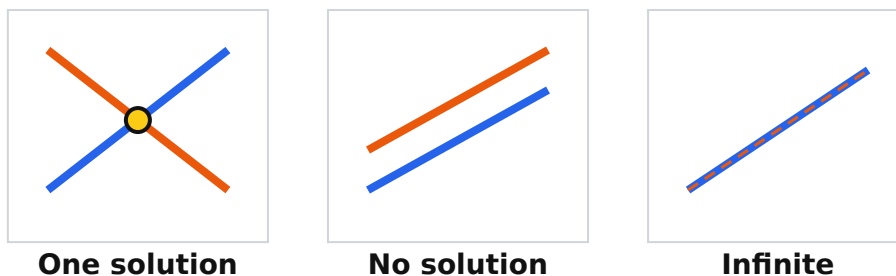
- A. 45
- B. 60
- C. 90
- D. 36

Question 9

Two friends save money. Mei: \\$10 plus \\$5 a week. Noah: \\$30 plus \\$3 a week. When are they equal?

- A. 5 weeks
- B. 20 weeks
- C. 10 weeks
- D. 4 weeks

Question 10



Crossing once, parallel, or the same line.

Which equation matches the middle panel (parallel lines)?

- A. $2x+1=x+5$
- B. $2x+1=2x+5$
- C. $2x+1=2x+1$

D. $x+1=2x+1$

Answers

1. **D** - Subtract 7 to get $3x = 15$, then divide by 3.
2. **C** - Subtract $3x$: $5x - 5 = 20$, so $5x = 25$.
3. **A** - Subtracting $4x$ gives $3 = 8$, which is false.
4. **B** - Both sides simplify to the same expression.
5. **A** - $2x + 1 = 13$, so $2x = 12$ and $x = 6$.
6. **B** - Subtract 1: $x/4 = 5$. Multiply by 4: $x = 20$.
7. **D** - $2x - 8 = x + 3$, so $x = 11$. Forgetting to distribute the -4 gives the wrong 7.
8. **A** - $x + x + 2x = 180$, so $4x = 180$ and $x = 45$.
9. **C** - $10 + 5x = 30 + 3x$, so $2x = 20$ and $x = 10$.
10. **B** - Same slope but different intercepts never meet.

Remember

- Do the same thing to both sides to keep the equation balanced.
- Distribute first, then combine like terms, then collect variable terms.
- One solution: $x = \text{number}$. No solution: false statement. Infinitely many: true statement.
- Multiply by a common multiple to clear fractions and decimals.
- Always check by substituting your answer into the original equation.