

Algebra 1 - Solving Linear Equations in One Variable - Quiz

Common Core A-REI.A.1, A-REI.B.3, A-CED.A.1 · maths-pdf.fr/en/

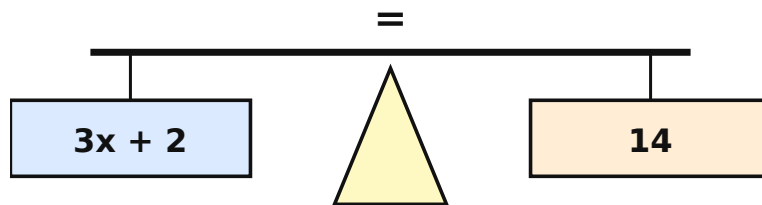
Name: _____ Class: _____ Date: ____/____/____

This quick quiz has 10 questions about linear equations in one variable, matching Common Core A-REI.B.3 and A-CED.A.1. Choose the best answer, then use the explanation to learn from every miss. The wrong choices come from common mistakes, so read them with care before you decide.

Algebra 1 · Common Core State Standards: **A-REI.A.1, A-REI.B.3, A-CED.A.1**

Questions

Question 1



The balance shows $3x+2=14$. What is x ?

- A. $x=5$
- B. $x=4$
- C. $x=6$
- D. $x=\frac{16}{3}$

Question 2

Solve $-3x=21$.

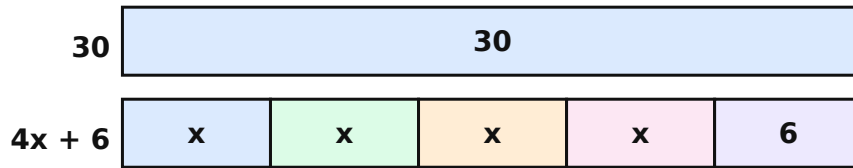
- A. $x=7$
- B. $x=18$
- C. $x=-7$
- D. $x=-24$

Question 3

Solve $2x+9=3x-4$.

- A. $x = -13$
- B. $x = 5$
- C. $x = -5$
- D. $x = 13$

Question 4



The tape diagram shows $4x + 6 = 30$. What is x ?

- A. $x = 6$
- B. $x = 9$
- C. $x = 7.5$
- D. $x = 24$

Question 5

How many solutions does $4(x+1) = 4x+4$ have?

- A. No solution
- B. Infinitely many solutions
- C. Exactly one solution, $x = 0$
- D. Exactly one solution, $x = 4$

Question 6

Solve $\frac{2}{5}x = 14$.

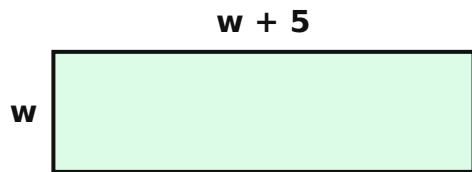
- A. $x = 35$
- B. $x = 5.6$
- C. $x = 28$
- D. $x = 70$

Question 7

Liam rents a kayak for a \$12 fee plus \$8 per hour and pays \$52. For how many hours did he rent it?

- A. 5 hours
- B. 6.5 hours
- C. 8 hours
- D. 40 hours

Question 8



The perimeter of the rectangle is 38 feet. What is the width w ?

- A. 9.5 ft
- B. 14 ft
- C. 8.25 ft
- D. 7 ft

Question 9

Solve $2(x-3)=10$.

- A. $x=6.5$
- B. $x=2$
- C. $x=8$
- D. $x=5$

Question 10

Solve $-(x+4)=7$.

- A. $x=3$
- B. $x=-11$
- C. $x=11$
- D. $x=-3$

Answers

1. **B** - Subtract 2 to get $3x = 12$, then divide by 3. Adding 2 instead gives $16/3$.
2. **C** - Divide both sides by -3. Forgetting that a negative divided into a positive is negative gives 7.
3. **D** - Subtract $2x$: $9 = x - 4$. Add 4: $x = 13$. A sign slip when moving the -4 gives -13 or 5.
4. **A** - Subtract 6 to get $4x = 24$, then divide by 4. Dividing 30 by 4 without subtracting first gives 7.5.
5. **B** - Distributing gives $4x + 4 = 4x + 4$, a true statement for every x .
6. **A** - Multiply both sides by $5/2$. Multiplying by $2/5$ instead gives 5.6.
7. **A** - Solve $12 + 8h = 52$: $8h = 40$, so $h = 5$. Dividing 52 by 8 ignores the fee.
8. **D** - Perimeter: $2w + 2(w + 5) = 38$, so $4w + 10 = 38$ and $w = 7$. Dividing 38 by 4 forgets the 5.
9. **C** - Distribute: $2x - 6 = 10$, so $x = 8$. Multiplying only the first term gives $2x - 3 = 10$.
10. **B** - The negative sign changes both terms: $-x - 4 = 7$, so $-x = 11$ and $x = -11$.

Remember

- Do the same operation to both sides of an equation to keep it balanced.
- Undo addition and subtraction first, then multiplication and division.
- With variables on both sides, collect variable terms on one side and constants on the other.
- A false statement such as $6 = 5$ means no solution; a true statement such as $8 = 8$ means infinitely many.
- Check a solution by substituting it into the original equation.