

Check It Twice

Solve each equation, then prove your answer works.

GRADE 8 • 8.PFA.4.g

8.PFA.4.g "Confirm algebraic solutions to linear equations in one variable."

NAME _____

DATE _____

CONFIRM BY SUBSTITUTING

After you solve a linear equation, substitute your value for x in the original equation. If both sides have the same value, your solution is confirmed. Use inverse operations to isolate x before you check.

WORKED EXAMPLE

Solve and confirm: $9x + 4 = 49$

1. Subtract 4 from both sides: $9x = 45$
2. Divide both sides by 9: $x = 5$
3. Confirm: $9(5) + 4 = 49$

Answer: $x = 5$

PRACTICE 6 problems

1 Solve and confirm: $3x + 8 = 29$

ANSWER _____

2 Solve and confirm: $2x - 11 = 15$

ANSWER _____

3 Solve and confirm: $21 = 3x + 12$

ANSWER _____

4 Solve and confirm: $8x - 10 = 46$

ANSWER _____

5 Solve and confirm: $12 - 2x = -8$

ANSWER _____

6 Solve and confirm: $7x + 2 = 3x + 26$

ANSWER _____

APPLY IT Show your work

- 1** Three tickets to a school esports event cost the same amount. A \$3 service credit is applied, and the total paid is \$27. Let x be the price of one ticket. Write and solve an equation, then confirm your answer.

WORK SPACE

ANSWER _____

- 2** A music app charges \$12 to start a month and \$2 for each downloaded album. The bill is \$26. Let x be the number of downloaded albums. Write and solve an equation, then confirm your answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Solve and confirm: $2(3x + 1) + 7 = x + 24$

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Solve and confirm: $3x + 8 = 29$	$x = 7$; $3(7) + 8 = 29$
2	Solve and confirm: $2x - 11 = 15$	$x = 13$; $2(13) - 11 = 15$
3	Solve and confirm: $21 = 3x + 12$	$x = 3$; $21 = 3(3) + 12$
4	Solve and confirm: $8x - 10 = 46$	$x = 7$; $8(7) - 10 = 46$
5	Solve and confirm: $12 - 2x = -8$	$x = 10$; $12 - 2(10) = -8$
6	Solve and confirm: $7x + 2 = 3x + 26$	$x = 6$; $7(6) + 2 = 3(6) + 26$

PART 2 • APPLY IT

1. **$x = 10$** Use $3x - 3 = 27$. Substituting confirms that $3(10) - 3 = 27$.
2. **$x = 7$** Use $12 + 2x = 26$. Substituting confirms that $12 + 2(7) = 26$.

CHALLENGE

$x = 3$; $2(3(3) + 1) + 7 = 3 + 24$, and $27 = 27$

Accept correct inverse-operation work and a substitution check showing equal values on both sides. Equivalent confirmation statements are acceptable.