

Lesson 8-1

Reinforce Understanding

Understand Equations and Their Solutions

I can write an equation for a real situation and check whether a given value is a solution by substituting it.

Worked model

Jade wrote the equation $m + 23 = 41$ for a number puzzle. Is $m = 18$ a solution?

1. Substitute: replace m with 18. The equation becomes $18 + 23 = 41$.
2. Do the arithmetic on the left side: $18 + 23$ makes 41.
3. Compare the two sides: 41 and 41. Both sides balance.
4. The equation is true, so $m = 18$ is a solution.

Answer: Yes — $m = 18$ makes both sides equal 41, so it is a solution.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Sort each phrase into the correct operation.

Write the name of the correct group on each line.

Groups: Addition (+) Subtraction (−) Multiplication (×) Division (÷)

- _____ more than
- _____ increased by
- _____ sum of
- _____ less than
- _____ decreased by
- _____ fewer than
- _____ times
- _____ product of
- _____ twice
- _____ divided by
- _____ split equally
- _____ quotient of

2. Which equation represents: 'A number plus 12 equals 30'?

Circle the letter of the best answer. Show how you know.

- A. $n + 12 = 30$
- B. $n - 12 = 30$
- C. $12n = 30$
- D. $n / 12 = 30$

Show your work
