A **one-step equation** contains one operation.

$x \cdot 2 = 3$

multiplication

$\frac{x}{4} = 1$

division

CFU

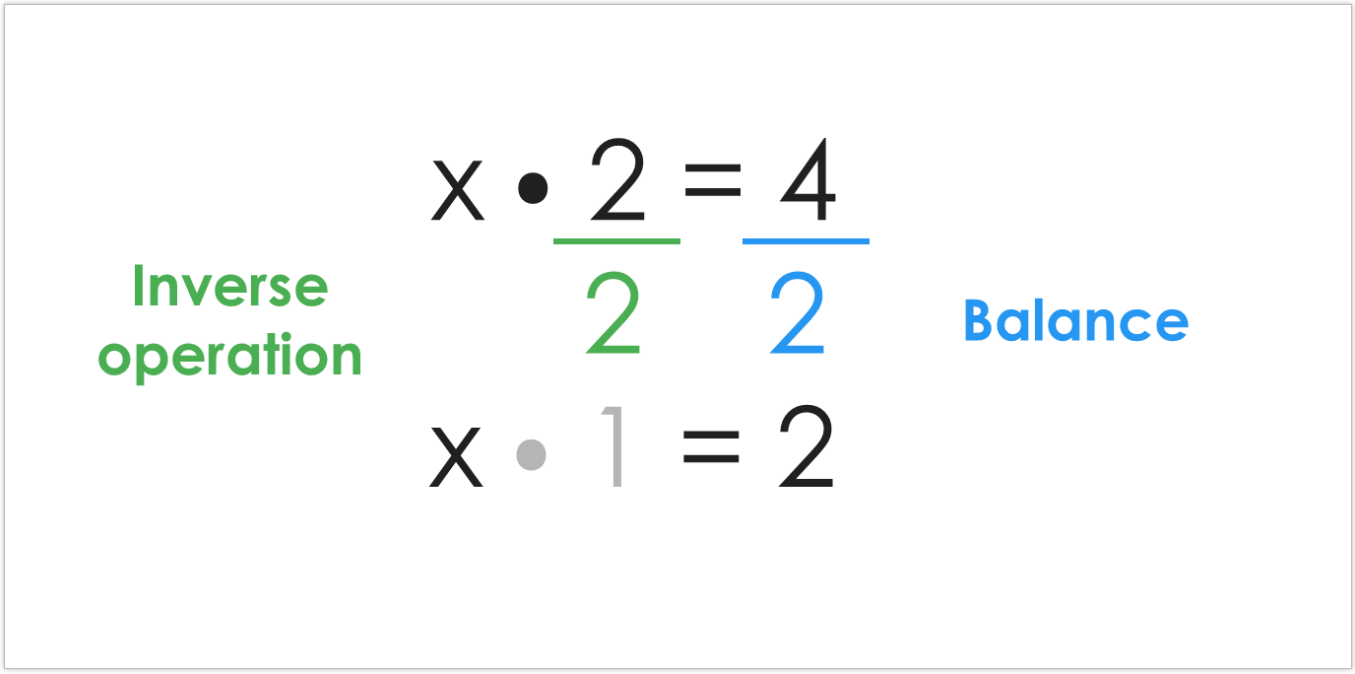
Which equation is a one-step equation? Explain.

A $\frac{m}{7} = 10$

B $\frac{m}{7} + 3 = 10$

A **one-step equation** contains one operation.

- **One-step equations** require one **inverse operation** to solve for the **variable**.
- To keep an equation **balanced**, **inverse operations** must be done on both sides of the equation.



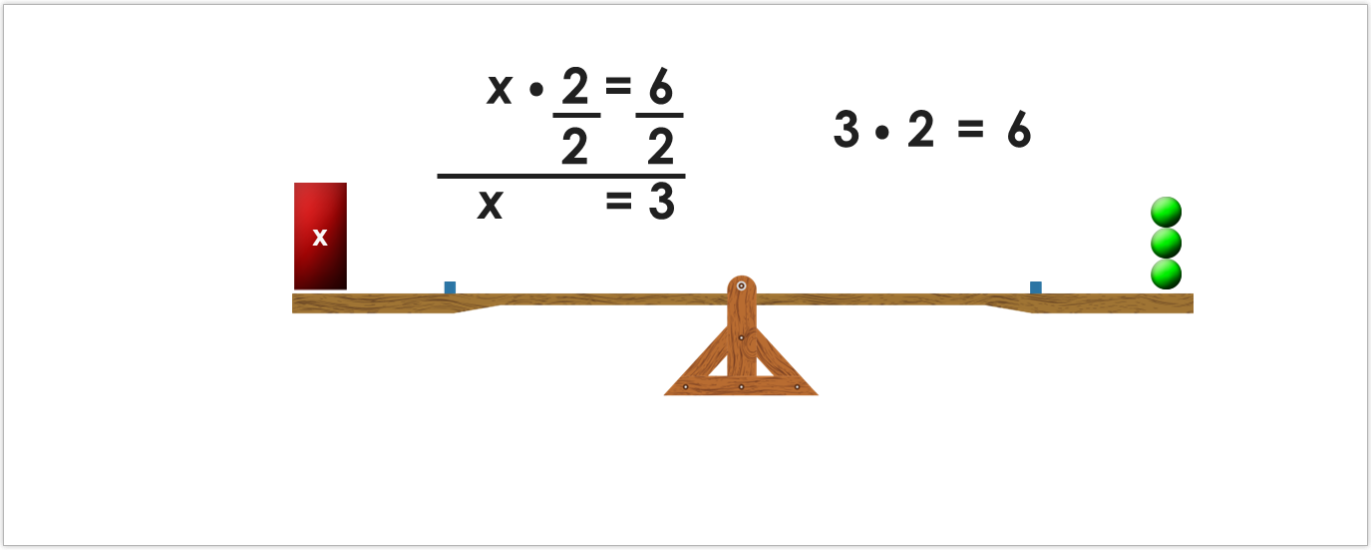
CFU

Which inverse operation would solve the one-step equation $\frac{m}{7} = 10$? Explain.

A Division
B Multiplication

A **one-step equation** contains one operation.

- **One-step equations** require one **inverse operation** to solve for the **variable**.
- To keep an equation **balanced**, **inverse operations** must be done on both sides of the equation.
- The **solution** is the value of the variable that makes the equation true.



CFU

Why is **2** used to divide both sides of the equation?

Why is **3** the solution to the equation **x · 2 = 6**?

A **one-step equation** contains one operation.

- **One-step equations** require one **inverse operation** to solve for the **variable**.
- To keep an equation **balanced**, **inverse operations** must be done on both sides of the equation.
- The **solution** is the value of the variable that makes the equation true.

Inverse operation

$$x \cdot 2 = 4$$
$$\frac{2}{2} = \frac{4}{2}$$
$$x \cdot 1 = 2$$

Balance

Solution
x = 2

$$x \cdot 2 = 4$$
$$(2) \cdot 2 = 4$$
$$4 = 4 \checkmark$$

NOT a Solution
x = 3

$$x \cdot 2 = 4$$
$$(3) \cdot 2 = 4$$
$$6 \neq 4 \times$$

CFU

Which is the solution for the following one-step equation? Explain.

$\frac{m}{7} = 5$

A **5**

B **7**

C **35**

In your own words, what is a one-step equation?

1 Read the equation.
2 Solve for the variable. (inverse operation)
3 Check and interpret the solution.

1

$p \cdot 9 = 36$

Check:

Interpret:

The inverse operation used to solve this problem is

The value of the variable is

2

$s \cdot 10 = 20$

Check:

Interpret:

The inverse operation used to solve this problem is

The value of the variable is

3

$\frac{k}{5} = 6$

Check:

Interpret:

The inverse operation used to solve this problem is

The equation is true when

4

$\frac{g}{4} = 7$

Check:

Interpret:

The inverse operation used to solve this problem is

The equation is true when

1 Read the equation.
2 Solve for the variable. (inverse operation)
3 Check and interpret the solution.

5 Binders cost $2 each. If Miguel has $12, how many binders can he buy?

$$2b = 12$$

6 A box of pencils has 6 pencils inside. If Rosalina has 24 pencils, how many boxes does she have?

$$6b = 24$$

7 Donna gave out muffins to her 6 friends. If each friend was given 4 muffins, how many muffins did Donna give out?

$$\frac{m}{4} = 6$$

8 Ricky and his two friends earned money doing chores for his neighbor. After splitting the money, they each got $7. How much money did they earn together?

$$\frac{m}{3} = 7$$

Skill Closure

1 Read the equation.
2 Solve for the variable. (inverse operation)
3 Check and interpret the solution.

1

$$w \bullet 5 = 25$$

Check:

Interpret:

The inverse operation used to solve this problem is

The value of the variable is

2

$$\frac{h}{3} = 8$$

Check:

Interpret:

The inverse operation used to solve this problem is

The value of the variable is

Concept Closure

Write an explanation. Read the passage. Explain why the student's solution is incorrect.

Sam is trying to solve the equation. After applying one inverse operation, his solution was $b = 12$. Explain why his solution is incorrect and what possible error he may have made?

$$2b = 12$$

Sam's solution

$$b = 12$$

Summary Closure

What did you learn today about solving one-step equations?

Word Bank
equation
one-step
balanced
inverse operation

1 Read the equation.
2 Solve for the variable. (inverse operation)
3 Check and interpret the solution.

1.

$$q \cdot 7 = 7$$

2.

$$h \cdot 11 = 55$$

3.

$$5x = 25$$

4.

$$\frac{k}{2} = 8$$

Read the word problem. Solve for the variable. (inverse operation) **Check and interpret the solution.**

5. A can of tennis balls has 3 tennis balls inside. If Frank has 18 tennis balls, how many cans of tennis balls does he have?

$$3c = 18$$

6. Four friends bought a box of action figures. Each one of them took 5 action figures. How many action figures did the box contain?

$$\frac{b}{4} = 5$$

Listening

Listen to these word problems. Answer the question.

1	2
$5b = 35$	$\frac{m}{5} = 9$

Listen to the word problem. Answer the questions.

8h = 40

Which of the following statements are true?

a The inverse operation used to solve this problem is multiplication. **Yes** **No**

b The meaning of the solution to this problem is how many lawns Archimedes must do. **Yes** **No**

c The meaning of the solution to this problem is the number of hours Archimedes should do. **Yes** **No**

d The first step in solving the equation is to multiply by 8 to both sides of the equation. **Yes** **No**

e The solution to the equation is 8. **Yes** **No**

Reading

Solve for the variable.

1 Myra has created a website with nine pages and 45 links. If every page has the same number of links, how many links are there on each page?

$$9x = 45$$

Each page has _____ links.

2 Yesenia has a certain number of beads to make bracelets. She used all of them to make eight bracelets of 25 beads each. How many beads did she start with?

$$\frac{b}{25} = 8$$

Yesenia started with _____ beads.

Read the word problem. Answer the questions.

Ms. Olivetti put her books on six shelves. She placed 16 books on each shelf. How many books does Ms. Olivetti have?

$$\frac{b}{16} = 6$$

Which of the following statements is true?

a	The inverse operation used to solve this problem is multiplication.	Yes	No
b	The meaning of the solution is the number of books Ms. Olivetti has.	Yes	No
c	The meaning of the solution is how many shelves Ms. Olivetti bought.	Yes	No
d	The first step in solving the equation is to divide by 6 on both sides of the equation.	Yes	No
e	The solution to the equation is 96.	Yes	No

Writing

Write an explanation.
Read the passage. Explain why the student's solution is incorrect.

1. Javier made six airplanes. It took him 30 minutes to make each airplane. How long did he spend making airplanes? Is the solution correct? Explain.

$$\frac{t}{6} = 30$$

Read the word problem. Answer the questions.

2. Dinorah sells raffle tickets at a charity event for $5 each.
How many tickets does she have to sell to make $150?
Which equation represents Dinorah's equation?

A $\frac{t}{150} = 5$ **B** $5t = 150$

C $\frac{t}{5} = 150$ **D** $150t = 5$

Solve and interpret the correct equation.

t = _____ Dinorah needs to sell _____ tickets.

3. There are eight 6th grade classrooms at the International School. If each classroom can register 32 students, how many students can the school accommodate? Which equation represents the 6th grade classrooms?

A $\frac{s}{6} = 32$ **B** $\frac{s}{32} = 8$

C $\frac{s}{8} = 32$ **D** $6s = 32$

Solve and interpret the correct equation.

s = _____ The school can accommodate _____ 6th grade students.