LESSON MAKER PRO

Find the Point

Solve equations and locate their solutions

GRADE 6 · 6.AT.C.8

6.AT.C.8 "Solve problems in context by writing and solving equations and interpreting the solutions in context. Explain that a variable can represent an unknown number and use substitution to determine whether a given number makes an equation true..."

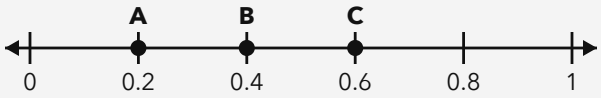
NAME _____ DATE _____

SOLVE AND CHECK

A variable can stand for an unknown number. Undo the operation to find its value, then substitute that value to check your answer. A solution can also be shown as a point on a number line.

WORKED EXAMPLE

Solve x + 1/5 = 3/5. Which point shows x?



1. Subtract 1/5: x = 3/5 - 1/5.
2. x = 2/5.
3. Substitute: 2/5 + 1/5 = 3/5.

Answer: x = 2/5, point B

PRACTICE 4 problems

1 Solve x + 1/4 = 7/8.

ANSWER _____

2 Solve x - 3/8 = 1/2.

ANSWER _____

3 Solve (3/4)x = 15/16.

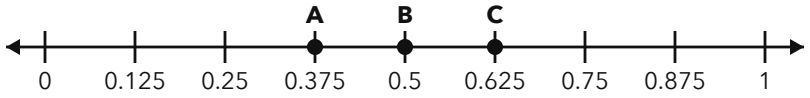
ANSWER _____

4 Solve x/(1/2) = 3/4.

ANSWER _____

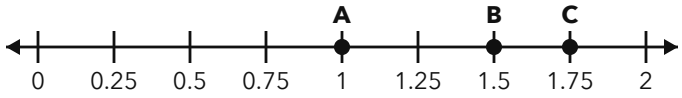
APPLY IT Show your work

1 A game download uses 3/8 GB. After the download, a tablet has used 7/8 GB. How many GB were used before? Write an equation with x, solve it, and name the point showing x.



ANSWER _____

2 A music clip is split into 3 equal parts. The clip is 4 1/2 minutes long. How long is each part? Write an equation with x, solve it, and name the point showing x.



ANSWER _____

CHALLENGE One step up

Maya says x = 3/4 solves x/(2/3) = 9/8. Check her claim by substitution. Then solve the equation to verify or correct her answer.

WORK SPACE AND ANSWER

ANSWER KEY

Find the Point

GRADE 6 · 6.AT.C.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve x + 1/4 = 7/8.	**x = 5/8**
2	Solve x - 3/8 = 1/2.	**x = 7/8**
3	Solve (3/4)x = 15/16.	**x = 5/4**
4	Solve x/(1/2) = 3/4.	**x = 3/8**

PART 2 · APPLY IT

1. **x + 3/8 = 7/8; x = 1/2 GB, point B** Subtract 3/8 from 7/8 to find the amount used before the download.
2. **3x = 4 1/2; x = 1 1/2 minutes, point B** Divide 4 1/2 by 3 to find the length of one part.

CHALLENGE

Maya is correct: (3/4)/(2/3) = 9/8. Solving gives x = (9/8)(2/3) = 3/4.

Accept equivalent fractions and decimals. In the word problems, accept equivalent equations with x defined as the amount asked for.