LESSON MAKER PRO

Equation Quest

Use inverse operations to find the unknown.

GRADE 6 · 6.EE.B.7

CCSS.Math.Content.6.EE.B.7 "Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers."

NAME _____ DATE _____

UNDO THE OPERATION

For x + p = q, subtract p from both sides to find x. For px = q, divide both sides by p to find x. Check your answer by replacing x in the original equation.

WORKED EXAMPLE

Solve: x + 2.7 = 8.9

1. Subtract 2.7 from both sides.
2. x = 8.9 - 2.7
3. x = 6.2

Answer: x = 6.2

PRACTICE 6 problems

1 Solve: x + 5 = 13

ANSWER _____

2 Solve: 3x = 21

ANSWER _____

3 Solve: x + 1/4 = 3/4

ANSWER _____

4 Solve: (2/5)x = 4

ANSWER _____

5 Solve: x + 0.6 = 1.5

ANSWER _____

6 Solve: 1.2x = 3.6

ANSWER _____

APPLY IT Show your work

1 Maya has $6.75 saved for a game card that costs $18. Let x be the amount of money she still needs. Write and solve an equation to find x.

WORK SPACE

ANSWER _____

2 A robotics club buys x pounds of trail mix for a snack table. Trail mix costs $3/4 per pound, and the club spends $6. Write and solve an equation to find x.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student council has saved $30, which is 5/6 of its fundraising goal, x. Write and solve an equation. Explain why you divide by 5/6.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Quest

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: x + 5 = 13	**x=8**
2	Solve: 3x = 21	**x=7**
3	Solve: x + 1/4 = 3/4	**x = 1/2**
4	Solve: (2/5)x = 4	**x = 10**
5	Solve: x + 0.6 = 1.5	**x = 0.9**
6	Solve: 1.2x = 3.6	**x=3**

PART 2 · APPLY IT

1. **x = 11.25. Maya needs $11.25.** Write x + 6.75 = 18 because Maya's saved money plus the amount needed equals the cost. Subtract 6.75 from 18.
2. **x = 8. The club buys 8 pounds.** Multiply the cost per pound by the number of pounds: (3/4)x = 6. Divide 6 by 3/4 to get 8.

CHALLENGE

(5/6)x = 30; x = 36. Divide by 5/6 because $30 is 5/6 of the total goal.

Accept equivalent rational forms, such as 0.5 for 1/2 and 0.9 for 9/10. For word problems and the challenge, accept a correct equation, solution, and appropriate unit or context statement.