LESSON MAKER PRO

Equation Quest

Write and solve equations with rational numbers.

GRADE 6 · 6.PAR.7.3

6.PAR.7.3 "Solve problems by writing and solving equations of the form x + p = q, px = q and x/p = q for cases in which p, q and x are all nonnegative rational numbers."

NAME _____ DATE _____

USE INVERSE OPERATIONS

For x + p = q, subtract p from q. For px = q, divide q by p, and for x/p = q, multiply q by p.

WORKED EXAMPLE

Solve: x + 5/8 = 1 7/8

1. Subtract 5/8 from both sides.
2. x = 1 7/8 - 5/8
3. x = 1 1/4

Answer: x = 1 1/4

PRACTICE 6 problems

1 Solve: x + 2/3 = 5/6

ANSWER _____

2 Solve: x + 1.4 = 3.9

ANSWER _____

3 Solve: (3/4)x = 6

ANSWER _____

4 Solve: 2.5x = 7.5

ANSWER _____

5 Solve: x/(2/7) = 3 1/2

ANSWER _____

6 Solve: x/1.2 = 0.5

ANSWER _____

APPLY IT Show your work

1 At a game tournament, 2/5 of Jordan's total points came from bonus rounds. The bonus rounds were worth 18 points. How many total points did Jordan earn?

WORK SPACE

ANSWER _____

2 Maya has x dollars in her snack budget. After adding $1.75 from chores, she has $6.50. How much money did she have before the chores?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve and explain your reasoning: x/(2 1/4) = 1 1/3

WORK SPACE AND ANSWER

ANSWER KEY # Equation Quest

GRADE 6 · 6.PAR.7.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: x + 2/3 = 5/6	**x = 1/6**
2	Solve: x + 1.4 = 3.9	**x = 2.5**
3	Solve: (3/4)x = 6	**x=8**
4	Solve: 2.5x = 7.5	**x=3**
5	Solve: x/(2/7) = 3 1/2	**x=1**
6	Solve: x/1.2 = 0.5	**x = 0.6**

PART 2 · APPLY IT

1. **45 points** Let x be Jordan's total points. Solve (2/5)x = 18 by multiplying 18 by 5/2, so x = 45.
2. **$4.75** Write x + 1.75 = 6.50. Subtract 1.75 from 6.50 to get x = 4.75.

CHALLENGE

x = 3.

Accept equivalent fractions, decimals, or mixed numbers when they represent the same value. For the challenge, accept an explanation that shows multiplying both sides by 2 1/4.