LESSON MAKER PRO

Undo the Equation

Solve equations, then use them to make sense of real situations.

GRADE 7 · 7.EE.4a

7.EE.4a "Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations. Write and fluently solve linear equations of the form ax +b = c and a(x + b) = c where a, b, and c are rational numbers."

NAME _____ DATE _____

WORK BACKWARD

To solve ax + b = c, undo addition or subtraction first, then undo multiplication. To solve a(x + b) = c, undo multiplication first, then undo the operation inside the parentheses.

WORKED EXAMPLE

Solve $4(x + 3/2) = 18$.

1. Divide both sides by 4: x + 3/2 = 9/2.
2. Subtract 3/2 from both sides: x = 9/2 - 3/2.
3. Simplify: x = 3.

Answer: x = 3

PRACTICE 6 problems

1 Solve for x: 6x + 5 = 35.

ANSWER _____

2 Solve for x: -3x + 8 = -7.

ANSWER _____

3 Solve for x: 2/3x - 5 = 1.

ANSWER _____

4 Solve for x: 5(x - 2) = -15.

ANSWER _____

5 Solve for x: -2(x + 3/4) = 5/2.

ANSWER _____

6 Solve for x: 3/5x + 1/2 = 11/10.

ANSWER _____

APPLY IT Show your work

1 You have $6 in a game store account. You add the same amount, x dollars, each week for 5 weeks. Your balance is then $23.50. Write an equation and find x.

WORK SPACE

ANSWER _____

2 Three friends each buy a ticket for x dollars and a snack for $2.50. Together they spend $52.50. Write an equation and find the price of one ticket.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve -3/5(x - 2/3) = 9/10. Check your answer by substituting it into the original equation.

WORK SPACE AND ANSWER

ANSWER KEY

Undo the Equation

GRADE 7 · 7.EE.4a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve for x: 6x + 5 = 35.	**x = 5**
2	Solve for x: -3x + 8 = -7.	**x = 5**
3	Solve for x: 2/3x - 5 = 1.	**x = 9**
4	Solve for x: 5(x - 2) = -15.	**x = -1**
5	Solve for x: -2(x + 3/4) = 5/2.	**x = -2**
6	Solve for x: 3/5x + 1/2 = 11/10.	**x = 1**

PART 2 · APPLY IT

1. **5x + 6 = 23.50; x = $3.50 per week** Subtract 6 from 23.50, then divide 17.50 by 5.
2. **3(x + 2.50) = 52.50; x = $15** Divide 52.50 by 3 to get 17.50 for each person, then subtract the $2.50 snack cost.

CHALLENGE

x = -5/6. Check: -3/5(-5/6 - 2/3) = -3/5(-3/2) = 9/10.

Accept equivalent exact fractions and decimal forms. For the word problems, accept any equivalent equation that correctly represents the situation.