LESSON MAKER PRO

Equation Power

Use inverse operations to find x.

GRADE 6 · MA.6.AR.2

MA.6.AR.2 "Develop an understanding for solving equations and inequalities. Write and solve one-step equations in one variable."

NAME _____ DATE _____

UNDO THE OPERATION

An equation says two expressions have the same value. To solve for x, use the inverse operation to undo what is being done to x, and do the same thing to both sides.

WORKED EXAMPLE

$7x = 56$

1. Divide both sides by 7.
2. $7x / 7 = 56 / 7$
3. $x = 8$

Answer: x = 8

PRACTICE 6 problems

1 $x + 18 = 35$

ANSWER _____

2 $x - 12 = 19$

ANSWER _____

3 $4x = 36$

ANSWER _____

4 $x/6=8$

ANSWER _____

5 $52 = x - 11$

ANSWER _____

6 $5x = 45$

ANSWER _____

APPLY IT Show your work

1 Five identical game tokens cost $40. Let x be the cost of one token. Write and solve an equation to find x.

WORK SPACE

ANSWER _____

2 A music playlist had x songs. After 15 songs were removed, 27 songs were left. Write and solve an equation to find x.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Noah says that x / 4 = 11 means x = 7 because 11 - 4 = 7. Explain Noah's error and solve the equation.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Power

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	x + 18 = 35	**x = 17**
2	x - 12 = 19	**x = 31**
3	4x = 36	**x=9**
4	x/6=8	**x = 48**
5	52 = x - 11	**x = 63**
6	5x = 45	**x=9**

PART 2 · APPLY IT

1. **x = 8** Use 5x = 40 because five tokens cost $40. Divide both sides by 5 to get x = 8.
2. **x = 42** Use x - 15 = 27 because 15 songs were removed. Add 15 to both sides to get x = 42.

CHALLENGE

Noah should multiply 11 by 4, not subtract 4. x = 44.

Accept equivalent equation forms for the word problems, such as 40 = 5x and 27 = x - 15. For the challenge, accept any clear explanation that division by 4 is undone by multiplying by 4.