LESSON MAKER PRO

Equation Escape

Use inverse operations to find the unknown.

GRADE 7 · 7.PFA.3.f

7.PFA.3.f "Solve problems in context that require the solution of a two-step linear equation."

NAME _____ DATE _____

UNDO OPERATIONS

To solve a two-step equation, undo the addition or subtraction first. Then undo the multiplication or division to get x alone. Check by putting your value back into the original equation.

WORKED EXAMPLE

Solve: 9x + 14 = 68

1. Subtract 14 from both sides: 9x = 54
2. Divide both sides by 9: x = 6
3. Check: 9(6) + 14 = 68

Answer: x = 6

PRACTICE 6 problems

1 Solve: 3x + 5 = 17

ANSWER _____

2 Solve: 5x - 8 = 27

ANSWER _____

3 Solve: x/4 + 2 = 7

ANSWER _____

4 Solve: 7x + 11 = 46

ANSWER _____

5 Solve: 2x - 13 = 19

ANSWER _____

6 Solve: x/3 - 4 = 5

ANSWER _____

APPLY IT Show your work

1 A music app charges a $5 starting fee and $4 for each song pack. Your total charge is $33. How many song packs did you buy?

WORK SPACE

ANSWER _____

2 An arcade charges a $7 entry fee plus $3 for each game token. You pay $37 total. How many game tokens did you buy?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve: 4(x - 2) = 32. Show the steps you use.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Escape

GRADE 7 · 7.PFA.3.f

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: 3x + 5 = 17	**x=4**
2	Solve: 5x - 8 = 27	**x=7**
3	Solve: x/4 + 2 = 7	**x = 20**
4	Solve: 7x + 11 = 46	**x=5**
5	Solve: 2x - 13 = 19	**x = 16**
6	Solve: x/3 - 4 = 5	**x = 27**

PART 2 · APPLY IT

1. **7 song packs** Write 4x + 5 = 33. Subtract 5, then divide by 4 to get x = 7.
2. **10 game tokens** Write 3x + 7 = 37. Subtract 7, then divide by 3 to get x = 10.

CHALLENGE

x = 10

Accept correct inverse-operation work and equivalent equation forms. For the challenge, students may divide by 4 first, then add 2.