LESSON MAKER PRO

# Solve It Cleanly

*Use inverse operations to isolate one variable.*

**HIGH SCHOOL · HSA-REI.B.3**

**CCSS.Math.Content.HSA-REI.B.3** "Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters."

NAME _____ DATE _____

### KEEP BOTH SIDES BALANCED

Undo operations in reverse order, and do the same operation to both sides of an equation or inequality. When you multiply or divide an inequality by a negative number, reverse the inequality sign. If a letter is a coefficient, divide by that letter only when it is not zero.

### WORKED EXAMPLE

$14x + 9 = 51$

1. Subtract 9 from both sides: $14x = 42$.
2. Divide both sides by 14: $x = 3$.

**Answer: x = 3**

## PRACTICE 6 problems

**1** $7x - 4 = 24$

**ANSWER** _____

**2** $-6x + 8 = -28$

**ANSWER** _____

**3** $5(x - 2) > 30$

**ANSWER** _____

**4** $(4/5)x + 1 = 13$

**ANSWER** _____

**5** $11 - 2x <= -1$

**ANSWER** _____

**6** $px - 12 = 20$

**ANSWER** _____

## APPLY IT Show your work

**1** The esports club charges a $16 entry fee plus $5 for each tournament. Your total is $41. How many tournaments did you enter?

WORK SPACE

**ANSWER** _____

**2** You have $16 saved toward headphones that cost $64. You earn $8 for each dog walk. How many dog walks do you need to earn enough?

WORK SPACE

**ANSWER** _____

## CHALLENGE One step up

**CHALLENGE**

Solve (4/7)(x - 8) + 2 = (1/5)x + 16.

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**ANSWER KEY** # Solve It Cleanly



## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | 7x - 4 = 24 | **x = 4** |
| 2 | -6x + 8 = -28 | **x = 6** |
| 3 | 5(x - 2) > 30 | **x > 8** |
| 4 | (4/5)x + 1 = 13 | **x = 15** |
| 5 | 11 - 2x <= -1 | **x >= 6** |
| 6 | px - 12 = 20 | **x = 32/p, p != 0** |

## PART 2 · APPLY IT

1. **5 tournaments** Write 16 + 5t = 41. Subtract 16 and divide by 5, so t = 5.
2. **at least 6 dog walks** Write 16 + 8w >= 64. Subtract 16 and divide by 8, so w >= 6.

## CHALLENGE

**x = 50**

For inequalities, accept equivalent interval notation. For px - 12 = 20, accept x = 32/p only with p != 0; if p = 0, the equation has no solution.