LESSON MAKER PRO

Balance and Solve

Use equations and inequalities to find unknown values.

GRADE 7 · 7.PAR.3

7.PAR.3 "Represent authentic situations using equations and inequalities with variables; solve equations and inequalities symbolically, using the properties of equality."

NAME _____ DATE _____

KEEP BOTH SIDES FAIR

Use inverse operations to get x alone, 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.

WORKED EXAMPLE

Solve: 13x - 17 = 61

1. Add 17 to both sides: 13x = 78
2. Divide both sides by 13: x = 6

Answer: x = 6

PRACTICE 6 problems

1 Solve: x + 14 = 39

ANSWER _____

2 Solve: 8x = 72

ANSWER _____

3 Solve: 4x - 9 = 31

ANSWER _____

4 Solve: x/3 + 11 = 19

ANSWER _____

5 Solve: 2(x + 4) = 30

ANSWER _____

6 Solve: 20 - 4x >= 0

ANSWER _____

APPLY IT Show your work

1 An art club has $18 to start a fundraiser. It earns $4 for each keychain it sells and wants to raise at least $50. Write and solve an inequality to find how many keychains the club must sell.

WORK SPACE

ANSWER _____

2 A coding club has $45 for tournament registration. The team registration fee is $9, and each player costs $3 to register. Write and solve an equation to find how many players can register if the club spends all $45.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve: $3(x - 4) + 2 = 2x + 15$

WORK SPACE AND ANSWER

ANSWER KEY # Balance and Solve

GRADE 7 · 7.PAR.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: x + 14 = 39	**x = 25**
2	Solve: 8x = 72	**x=9**
3	Solve: 4x - 9 = 31	**x = 10**
4	Solve: x/3 + 11 = 19	**x = 24**
5	Solve: 2(x + 4) = 30	**x = 11**
6	Solve: 20 - 4x >= 0	**x <= 5**

PART 2 · APPLY IT

1. **x >= 8** Let x be the number of keychains. Subtract 18, then divide by 4 to get x >= 8.
2. **x = 12** Let x be the number of players. Subtract 9 from both sides, then divide by 3 to get x = 12.

CHALLENGE

x = 25

Accept equivalent equation or inequality forms for the word problems. For the inequality, accept x <= 5, including wording such as "x is less than or equal to 5."