LESSON MAKER PRO

Equation Matchup

Solve equations alone and in pairs.

GRADE 8 · 8.EE.C

CCSS.Math.Content.8.EE.C "Analyze and solve linear equations and pairs of simultaneous linear equations."

NAME _____ DATE _____

BALANCE AND COMBINE

For one linear equation, use inverse operations to get the variable alone while keeping both sides balanced. For a system, use substitution or elimination to find values that make both equations true, then check both values.

WORKED EXAMPLE

Solve the system: x + y = 23 and x - y=7

1. Add the equations: 2x = 30.
2. Divide by 2: x = 15.
3. Substitute x = 15 into x + y = 23: 15 + y = 23.
4. Subtract 15: y = 8.

Answer: x = 15, y = 8

PRACTICE 6 problems

1 Solve: 6x - 5 = 31

ANSWER _____

2 Solve: 3(x + 4) = 27

ANSWER _____

3 Solve: x/4 + 6 = 11

ANSWER _____

4 Solve the system: x + y = 14 and x - y = 4

ANSWER _____

5 Solve the system: 2x + y = 17 and x + y = 11

ANSWER _____

6 Solve the system: y = 3x - 2 and x + y = 14

ANSWER _____

APPLY IT Show your work

1 At a school concert, 10 tickets were sold. General tickets cost $9 and VIP tickets cost $13. Total sales were $110. How many general tickets and VIP tickets were sold?

WORK SPACE

ANSWER _____

2 A playlist for a dance has 18 tracks. Each track is either 3 minutes or 5 minutes long, and the playlist lasts 66 minutes. How many tracks are each length?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve the system. Show why adding the equations is useful: 3x + 2y = 26 and 5x - 2y = 22

WORK SPACE AND ANSWER

ANSWER KEY

Equation Matchup

GRADE 8 · 8.EE.C

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: 6x - 5 = 31	**x=6**
2	Solve: 3(x + 4) = 27	**x=5**
3	Solve: x/4 + 6 = 11	**x = 20**
4	Solve the system: x + y = 14 and x - y = 4	**x = 9, y = 5**
5	Solve the system: 2x + y = 17 and x + y = 11	**x = 6, y = 5**
6	Solve the system: y = 3x - 2 and x + y = 14	**x = 4, y = 10**

PART 2 · APPLY IT

1. **5 general tickets and 5 VIP tickets** Let g be general tickets and v be VIP tickets. Solve g + v = 10 and 9g + 13v = 110 to get g = 5 and v = 5.
2. **12 three-minute tracks and 6 five-minute tracks** Let s be the number of three-minute tracks and f be the number of five-minute tracks. Solve s + f = 18 and 3s + 5f = 66 to get s = 12 and f = 6.

CHALLENGE

Adding the equations cancels y and gives 8x = 48, so x = 6. Substituting gives y = 4.

Accept correct x and y values in either stated order when they are clearly labeled. Accept equivalent algebraic work and correctly labeled word-problem answers.