LESSON MAKER PRO

Systems That Click

Choose a method, then check the solution.

HIGH SCHOOL · A1P.AF.C.10

A1P.AF.C.10 "Select an appropriate method to solve a system of two linear equations in two variables. a. Solve a system of two equations in two variables by using linear combinations..."

NAME _____ DATE _____

CHOOSE YOUR MOVE

When coefficients are opposites, add the equations to eliminate a variable. If a variable is already alone, substitution is often faster. Algebra gives exact values, while a graph may require an estimate and a table shows only the inputs listed.

WORKED EXAMPLE

Solve x + y = 31 and x - y = 17. Check your answer in the table.

VALUES FROM BOTH EQUATIONS

x	y from x + y = 31	y from x - y = 17
23	8	6
24	7	7
25	6	8

1. Add the equations: 2x = 48, so x = 24.
2. Substitute: 24 + y = 31, so y = 7.
3. The table shows both y-values match when x = 24.

Answer: (24, 7)

PRACTICE 4 problems

1 Choose an efficient method and solve: x + y = 10 and x - y = 2.

ANSWER _____

2 Choose an efficient method and solve: y = 2x + 3 and 3x + y = 18.

ANSWER _____

3 Choose an efficient method and solve: 2x + 3y = 18 and 2x - y = 2.

ANSWER _____

4 Choose an efficient method and solve: y = x - 4 and 2x + 3y = 13.

ANSWER _____

APPLY IT Show your work

1 At a school concert, 2 student tickets and 3 adult tickets cost $35. Three student tickets and 2 adult tickets cost $30. Find each ticket price.

WORK SPACE

ANSWER _____

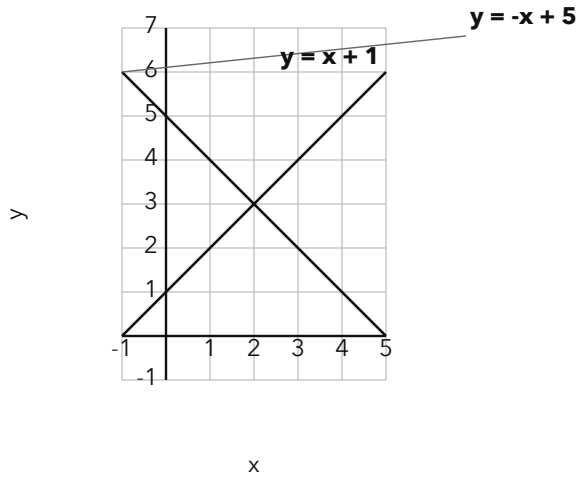
2 Two smoothies and a pretzel cost $13. One smoothie and a pretzel cost $8. Find each price.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Use algebra to find the exact intersection of the two lines. Explain how the graph checks your answer and why a table could miss it.



WORK SPACE AND ANSWER

ANSWER KEY # Systems That Click

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Choose an efficient method and solve: x + y = 10 and x - y = 2.	**Linear combinations; (6, 4).**
2	Choose an efficient method and solve: y = 2x + 3 and 3x + y = 18.	**Substitution; (3, 9).**
3	Choose an efficient method and solve: 2x + 3y = 18 and 2x - y = 2.	**Linear combinations; (3, 4).**
4	Choose an efficient method and solve: y = x - 4 and 2x + 3y = 13.	**Substitution; (5, 1).**

PART 2 · APPLY IT

1. **Student: $4; adult: $9.** Solve 2s + 3a = 35 and 3s + 2a = 30 by elimination to get a = 9 and s = 4.
2. **Smoothie: $5; pretzel: $3.** Subtract s + p = 8 from 2s + p = 13 to get s = 5. Then p = 3.

CHALLENGE

(2, 3). Setting x + 1 = -x + 5 gives x = 2 and y = 3. The lines cross at (2, 3); a table could miss the intersection if it omits x = 2.

Accept either algebraic method when the student explains why it is efficient. Ordered pairs are written as (x, y).