



Systems of two equations

GRADE 8 MATH

Name _____

Date _____

Give every solution as a pair (x, y) , and check it in BOTH equations. One skill: **systems of two equations**.

WORKED EXAMPLE

Two equations in two unknowns ask where two lines **meet**, so the answer is a **point**: both coordinates, not one number. For $x + y = 10$ and $x - y = 4$, adding gives $2x = 14$, so $x = 7$ and then $y = 3$ — the solution is **(7, 3)**. Check in **both**: (6,4) satisfies the first and fails the second, so one check proves nothing. If the variables cancel and the constants **disagree**, the lines are parallel and there is **no solution**; if they **agree**, it is the same line and there are **infinitely many**.

1. Solve $2x + y = 11$ and $x - y = 1$. Check your answer in both equations.

APPLICATION

Show your thinking

Answer

2. Sam solves a system and writes $x = 5$. Explain why that cannot be a complete answer.

REASONING

Show your thinking

Answer

3. What can you say about $y = 2x + 1$ and $y = 2x + 5$? Explain.

REASONING

Show your thinking

Answer

4. Two lines are given by $y = 3x - 2$ and $2y = 6x - 4$. How many solutions does the system have?

REASONING

Show your thinking

Answer