Systems of Equations

About These Problems

Systems of equations are two or more sets of equations with two or more variables that must be solved and satisfied at the same time. One method to approaching these problems is trying out every single option or solving for the actual value of both equations.

Question. Solve for x and y.

$$2x + 3y = 8$$
$$x + 4y = 9$$

1. x = 2 y = 3
2. x = 1 y = 2
3. x = 3 y = 5
4. x = 4 y = 4
5. x = 5 y = 6

Answer. 2: Solve for one variable and substitute back into the original equations.

Multiply equation 2 by 2.

$$2x + 8y = 18$$
$$2x + 3y = 8$$

Subtraction the top equation from the bottom.

$$0x + 5y = 10$$
$$y = 2$$

Substitute back and solve.

$$2x + 3*2 = 8$$
$$2x = 2$$
$$x = 1$$