

Concept Quiz

Solving & Writing Systems of Equations

80 Level

Solve the system of equations using any method and **explain** how you did it.

$$5x + 3y = 9$$

$$3x - y = 4$$

90 Level

$$ax + by = 12$$

$$2x + 8y = 60$$

In the system of equations above, a and b are constants. If the system has infinitely many solutions, what is the value of $\frac{a}{b}$? **Explain.**

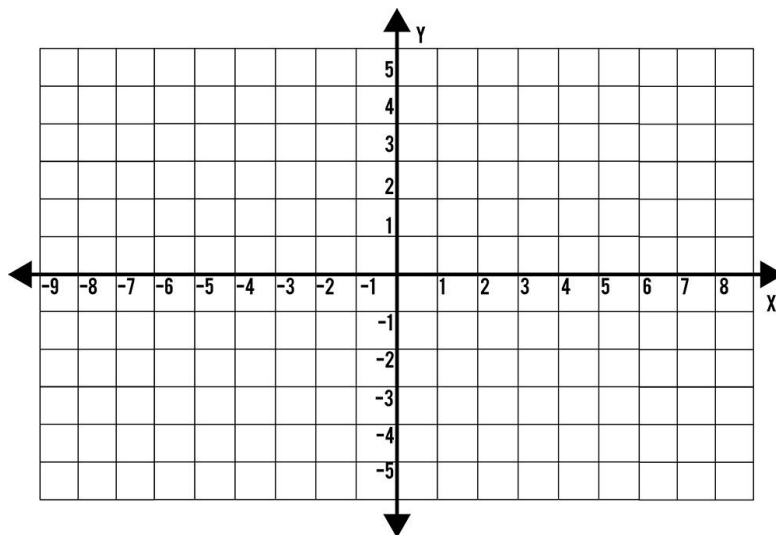
100 Level

Using the integers from -9 to 9 only once each, create a system of 3 equations such that the solution is $(1, 1)$.

$$y = \frac{\square}{\square}x + \square$$

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80 Level

For the following problem, **only write (don't solve)** the system of equations that represents the problem.

A drummer and a guitarist each wrote songs for their band. The guitarist wrote 8 fewer than twice the number of songs that the drummer wrote. They wrote a total of 46 songs. Write a system of equations that models this situation if the drummer wrote d songs and the guitarist wrote g songs. **Explain** your reasoning.

90 Level

Create a word problem that can be represented by the following system of equations.

$$\begin{aligned}x + y &= 50 \\ 2x + 4y &= 120\end{aligned}$$

100 Level

Write a system of linear equations, in standard form, that intersect at the point $(-7, 3)$. **Explain.**