



Linear Equations in Two Variables: Checking Solutions (page 1)

A **solution** of an equation in two variables is an ordered pair that produces a true statement when the coordinates of the ordered pair are substituted for the variables in the equation.

Example: Tell whether the ordered pair is a solution of $2x + 3y = -6$.

(a) $(3, -4)$

Substitute the values in the original equation.

$$\begin{aligned} 2x + 3y &= -6 \\ 2(3) + 3(-4) &= -6 \\ 6 + (-12) &= -6 \\ -6 &= -6 \end{aligned}$$

Therefore, $(3, -4)$ is a solution of $2x + 3y = -6$.

(b) $(0, 2)$

Substitute the values in the original equation.

$$\begin{aligned} 2x + 3y &= -6 \\ 2(0) + 3(2) &= -6 \\ 0 + (6) &= -6 \\ 6 &\neq -6 \end{aligned}$$

Therefore, $(0, 2)$ is NOT a solution of $2x + 3y = -6$.



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Linear Equations in Two Variables: Checking Solutions (page 2)

Tell whether the ordered pair is a solution of the equation. Show your work.

(a) $y = x - 2$; $(1, -1)$ (b) $y = -2x + 5$; $(3, 11)$ (c) $x - 4y = 8$; $(-2, 0)$ (d) $3x - 4y = -1$; $(9, 7)$

Which ordered pair is not a solution of $3x - 4y = 7$?

A. $(1, -1)$ B. $\left(\frac{11}{3}, 1\right)$ C. $\left(3, \frac{1}{2}\right)$ D. $\left(5, \frac{11}{2}\right)$

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