



## 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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