

Infinite Solutions vs. One Solutions vs. No Solutions		
Type of Solution	Example	Need to Know
Infinite Solutions	$\begin{array}{r} -2(x+3) = -2x-6 \\ \underline{-2x-6 = -2x-6} \\ +2x \quad +2x \\ \hline -6 = -6 \end{array}$	<ul style="list-style-type: none"> <li>Numbers only</li> <li>true</li> <li>Can substitute any # for variable</li> </ul>
One Solution	$\begin{array}{r} 3x+7 = 11x+15 \\ \underline{-11x \quad -11x} \\ -8x+7 = 15 \\ \underline{-7 \quad -7} \\ -8x = 8 \\ \underline{-8 \quad -8} \\ x = -1 \end{array}$	<ul style="list-style-type: none"> <li>solution has a variable (<math>x =</math>)</li> <li>solution has ONE number</li> </ul>
No Solution	$\begin{array}{r} x+2x+1 = 5+3x \\ \underline{3x+1 = 5+3x} \\ -3x \quad -3x \\ \hline 1 = 5 \end{array}$	<ul style="list-style-type: none"> <li>Numbers only</li> <li>false</li> <li>No value will make it true</li> </ul>

Aug 28-8:41 AM

$-9 + x + 2x + 3 = 3(x + 2)$

$-9 + x + 2x + 3 = 3x + 6$

$-9 + 3x + 3$

$3x + 6 = 3x + 6$

$-3 \quad -3$

$-6 = 6$  NO Sol.

$-1(3 - 6b) = 6b + 5$

$-3 + 6b = 6b + 5$

$-6b \quad -6b$

$-3 = 5$   
no solution

$36 - 7p = -7(p - 5)$

$36 - 7p = -7p + 35$

$36 = 35$  No Solution

$-3(v + 4) = 2v - 37$

$-3v - 12 = 2v - 37$

$-2v$

$-5v - 12 = -37$

$+12 \quad +12$

$-5v = -25$

$\frac{-5v}{-5} = \frac{-25}{-5}$

$v = 5$

$4(k - 8) = -32 + 4k$

$4k - 32 = -32 + 4k$

$-4k \quad -4k$

$-32 = -32$   
infinite solutions

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