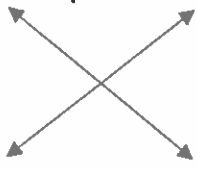




## One None. And Infinite Solution

### Notes

	One Solution	Infinite Solutions	No Solution
<b>Reasoning</b> What does this solution mean?	Only one value will make the value true	Any value will make the value true	No value will make the value true
<b>Effect on the lines</b> Do the lines ever meet?	Lines will meet at one and only one point 	The two lines lie on top of each other, they are the same line 	The two lines never meet, they are parallel to each other 
<b>Example</b>	$\begin{array}{r l} 4x + 6 & = 14 \\ -6 & -6 \\ \hline 4x & = 8 \\ \hline x & = 2 \end{array}$	$\begin{array}{r l} 5x + 15 & = 5x + 15 \\ -5x & -5x \\ \hline 15 & = 15 \end{array}$	$\begin{array}{r l} 4x + 8 & = 4x + 3 \\ -4x & -4x \\ \hline 8 & \neq 3 \end{array}$
<b>Hint</b>	End result will have a variable and a solution	Variables on each side will cancel each other out and both sides of the equation look equal.	Variables on each side will cancel each other out and both sides of the equation do not look equal.

## Hint Sheet One, None and Infinite

When you have the equations in  $y = mx + b$  Format

**One-** the equations have a different slope they have one solution

$$y = \frac{2}{3}x + 4 \quad y = 3x - 4$$

**None-** The equations have the same slope but different y intercepts

$$y = 3x - 4 \quad y = 3x + 5 \quad y = 3x$$

**Infinite-** The equations are the same

$$Y = \frac{2}{3}x + 4 \quad Y = \frac{4}{6}x + 4 \quad \frac{4}{6} \text{ when simplified} = \frac{2}{3}$$