Simultaneous Equations

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Simultaneous equations are set of equations that are all true at the same time. This is often shown using curly braces.

Example 1:

Note in this example that we have one quadratic and one linear equation. The linear equation should always be substituted in to the quadratic as it makes it much easier to solve.

$$\begin{cases} y & = 4 - 2x \\ y & = x^2 + x \end{cases}$$

$$4 - 2x = x^2 + x$$

$$0 = x^2 + 3x - 4$$

$$x = -4, \ x = 1$$