Simultaneous Equations Overview

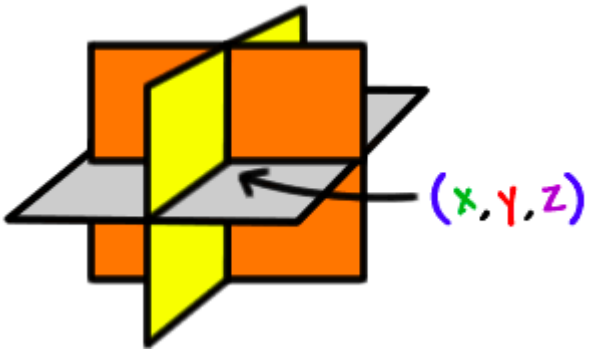
This standard involves forming and solving simultaneous equations.
In previous years, you have done this with 2 equations and 2 unknowns. In this topic, you will use 3 equations and 3 unknowns.

Here are the steps for solving problems in this topic:

- Define Variables
- Form and rearrange equations (3 equations, 3 unknowns)
- Use calculator to see if unique solution
- Graph planes using GeoGebra to get visual representation
- Nature of solutions - unique solution, multiple solutions, no solution

Solving 3x3 simultaneous equations

An equation with 2 variables represents a line.
An equation with 3 variables represents a plane.
In a 3x3 set of simultaneous equations, the planes usually meet (intersect) at one point.
By solving these equations, we are attempting to calculate their point of intersection (x,y,z).



Useful Resources

GeoGebra link - use to graph the 3 equations to get a visual representation

Jamie Sneddon's site - this website covers the entire topic including practice assessments

Wolfram - students can use if haven't got a graphics calculator to solve 3 equations with a unique solution or to find a linear combination of equations