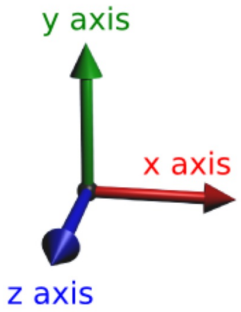
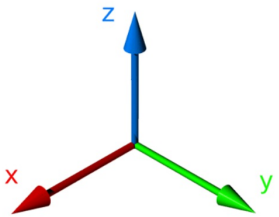
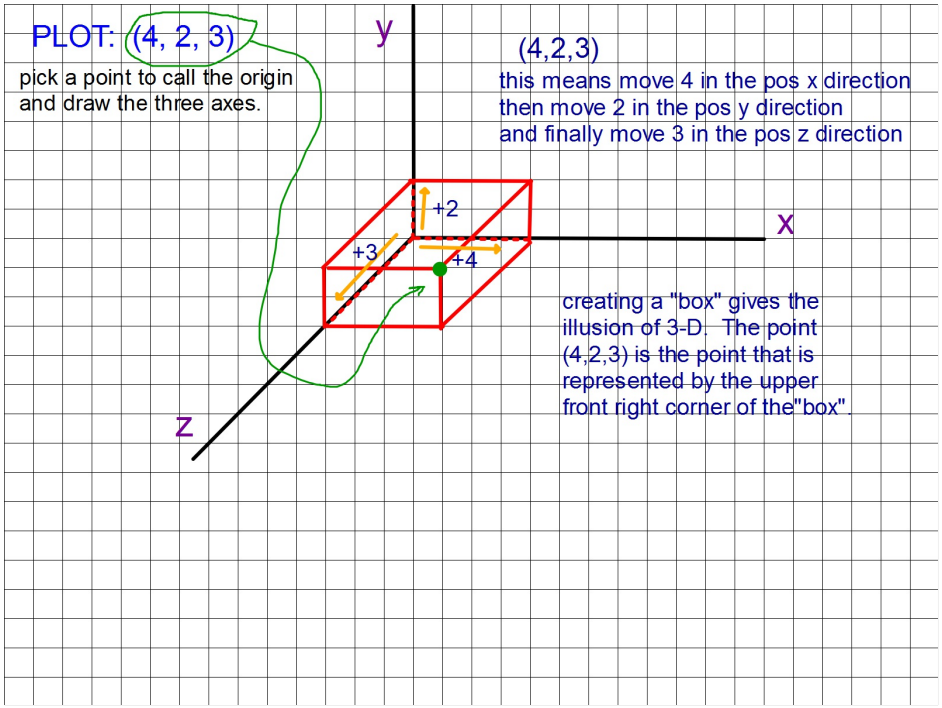
Plotting an ordered triple requires 3 axes

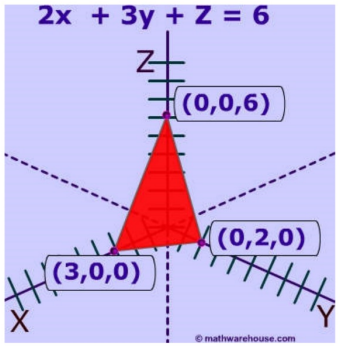


Our Book and other sources have the axes in different locations.





The graph of an equation in three variables is a Plane in 3-D space

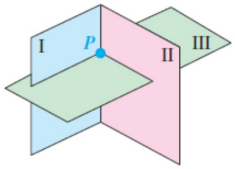


Systems of equations in three variables. 3 planes in space.

How many solutions are possible?

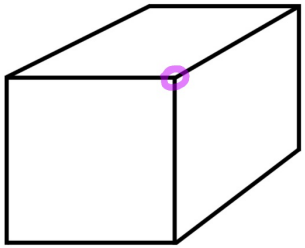
- One Solution
- No Solution
- Many Solutions

One Solution:



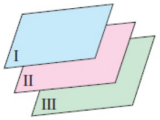
A single solution

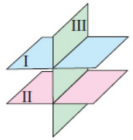
(a)

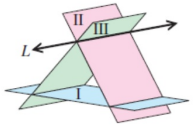


the corner of a box is where three planes intersect - top, front, and right sides

No solution.







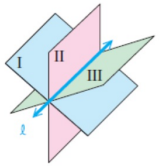
No points in common to ALL three planes at the same time.

Many Solutions:

All points in common

(c)

All three planes are the SAME plane



Points of a line in common

(b)

You can now finish Hwk #12 Sec 3-6

Due Tomorrow

Page 158	Problems 26, 27, 30, 31
AND	
Page 218	Problems 30, 42

Write out Matrices A and B then give the solution as an ordered triple.

What does a system of quadratic equations represent?

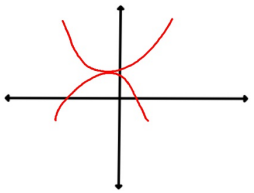
Two parabolas on the same x-y plane.

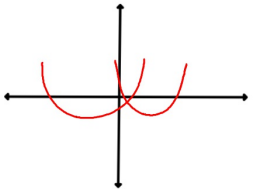
How many solutions could a system of quadratics have?

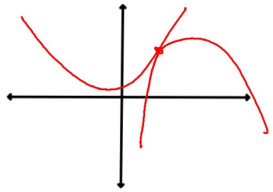
One, Two, None, Many

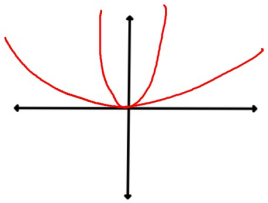
Possible solutions to a system of quadratic equations.

One Solution:

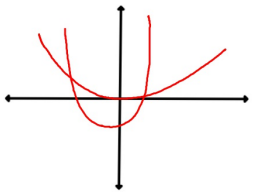


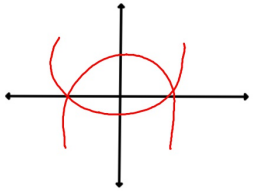




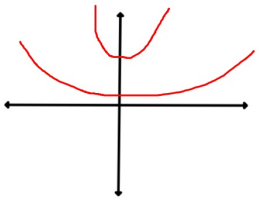


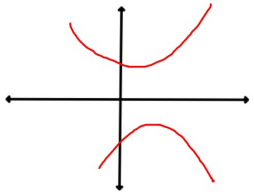
Two Solutions:





No Solution:





Many Solutions:

They are the same parabola

Solve this system of equations.

$y = x^2 + 5x + 8$ $\quad y = -x^2 - 6x + 3$

You can use substitution so solve this system of quadratics.

$x^2 + 5x + 8 = -x^2 - 6x + 3$

$+x^2 \qquad +x^2$

$2x^2 + 11x + 5 = 0$

$(x+5)(2x+1) = 0$

$x = -5, -\frac{1}{2}$