

# Systems of Linear Equations

Definition:

A system of equations is a set of two or more equations in two or more variables.

Consider the system below:

$$x + 2y = 4$$

$$3x - 2y = 6$$

What does it mean to be a solution to this system?

Solve the system above using a graph.

Review:

Solve the system using elimination and substitution:

$$4x + 9y = -74$$

$$8x + 7y = -82$$

Solve the system:

$$x - 5y = -5$$

$$3x + 15y = 17$$

Solve the system:

$$x + 5y = 12$$

$$-4x - 20y = -48$$

Solve the system:

$$x + 3y = 2$$

$$y - 4z = -13$$

$$-3x - 5y + 3z = -19$$

Solve the system:

$$-3x + 3y + z = 2$$

$$x + 6y - 4z = -11$$

$$4x + 3y - 5z = -13$$

Solve the system:

$$4x - 24y + 8z = 9$$

$$3x + 5y - 5z = 19$$

$$x - 6y + 2z = 3$$

A private jet flies the same distance in 7 hours that a commercial jet flies in 5 hours. If the speed of the commercial jet was 126 mph less than two times the speed of the private jet, find the speed of each jet.

How many ounces of a 16% acid solution and a 32% acid solution must be combined to obtain 74 ounces of 24% acid solution?