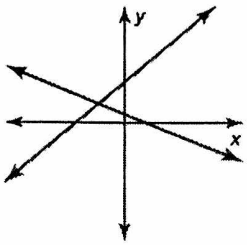
AA PREP: LINEAR RELATIONSHIPS—SOLVING SYSTEMS LECTURE

Solutions of Systems of Linear Equations:

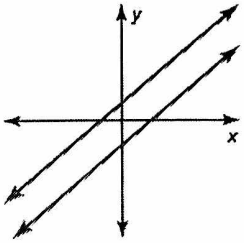
A system of linear equations can have one solution, no solution, or infinitely many solutions.

One solution



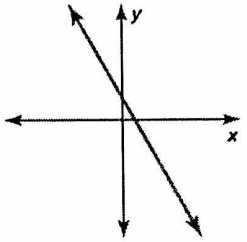
The lines intersect.

No solution



The lines are parallel.

Infinitely many solutions



The lines are the same.

Solving Systems of Linear Equations:

EX 1: Solve the system using three methods: graphing, substitution, and elimination.

a) Graphing

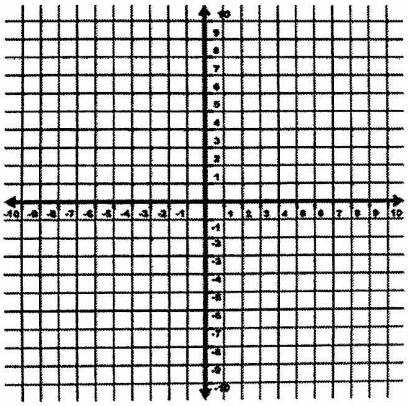
$$\begin{cases} x+y=-2 \\ -8x+2y=-14 \end{cases}$$

b) Substitution

$$\begin{cases} x+y=-2 \\ -8x+2y=-14 \end{cases}$$

c) Elimination

$$\begin{cases} x+y=-2 \\ -8x+2y=-14 \end{cases}$$



EX 2: Graph each system, then solve the system using substitution or elimination.

a)
$$\begin{cases} 3x-4y=-12 \\ y=\frac{3}{4}x-2 \end{cases}$$

b)
$$\begin{cases} 2x+y=4 \\ 6x+3y=12 \end{cases}$$