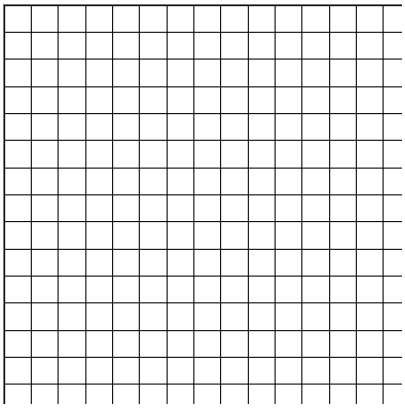
Beverly Hills High School -- Algebra B -- Quest #1 -- Sections 6.1-6.3 -- 80 points

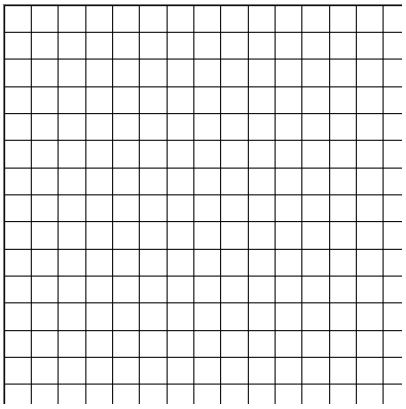
Show all your work. Be neat and complete. Label all your answers that need them. All problems are seven points. NO Copying. Pencils only.

Solve each of the following systems of equations by graphing. State the solution(s) if they exist.

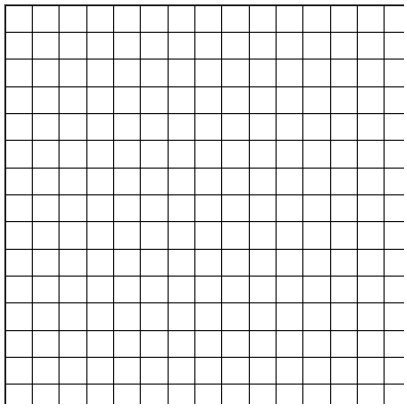
1) $\begin{cases} y = \frac{-1}{2}x - 1 \\ y = \frac{3}{4}x \end{cases}$



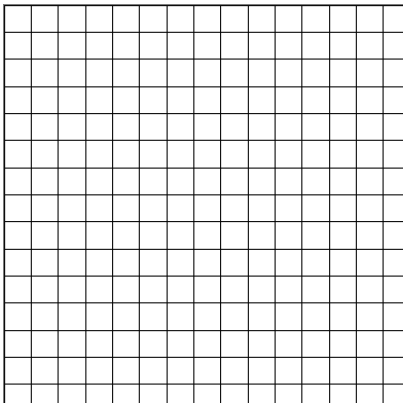
2) $\begin{cases} y = 2x + 1 \\ x = \frac{1}{2}y + \frac{3}{2} \end{cases}$



3) $\begin{cases} y + 2 = x \\ 2x + 3y = -6 \end{cases}$



4) $\begin{cases} y = \frac{1}{4}x + 2 \\ x + 3y = -1 \end{cases}$



Solve each of the following systems by substitution. State the solution(s) if they exist.

5) $\begin{aligned} y &= 2x - 3 \\ 3y - 4x &= -1 \end{aligned}$

6) $\begin{aligned} 7x - y &= -2 \\ -2y - 3x + 4 &= 0 \end{aligned}$

7) $\begin{aligned} \frac{1}{2}x + \frac{1}{3}y &= 0 \\ -2x - 3y &= 5 \end{aligned}$

Solve the following systems by elimination. State the solution(s) if they exist.

8) $\begin{aligned} 3x + y &= 19 \\ -5x - y &= -31 \end{aligned}$

9) $\begin{aligned} -4x + 3y &= 15 \\ -2x + 7y &= 13 \end{aligned}$

Use any of the three methods you wish on these systems of equations. Once more, state solutions if they exist.

10) $\begin{aligned} 4x + 7 &= 7y \\ y - 2x &= 11 \end{aligned}$

11) $\begin{aligned} y + 6 &= x \\ -5y + 4x &= 7 \end{aligned}$

Matching Section. One point apiece. Choose the letter that best describes each term.

_____ 12) dependent equations

_____ 13) consistent system

_____ 14) inconsistent system

a) lines which intersect at just one point
b) lines which never intersect
c) lines which intersect in an infinity of solutions
d) lines that have no idea where the heck they are going
e) the answer isn't e
f) it's not f either
g) why are you reading these?

15) EXTRA CREDIT -- Three points -- All or Nothing -- Guessing is okay.

If a chicken and a half lays an egg and a half in a day and a half, how long does it take ten chickens to lay ten eggs?