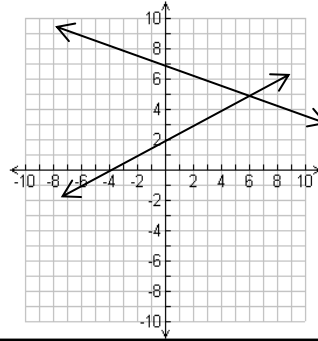


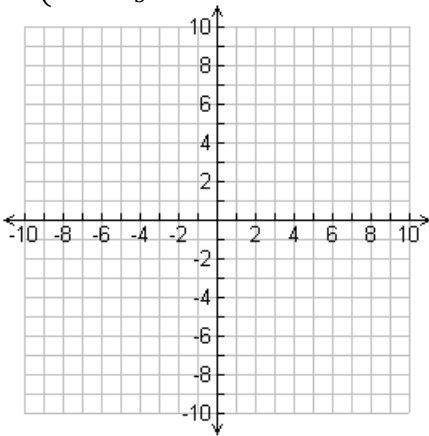
Solving Systems of Equations by Graphing**EXAMPLE: READ THIS FIRST!!!**

Solve the system by graphing:
$$\begin{cases} y = -\frac{1}{3}x + 7 \\ -2x + 4y = 8 \end{cases}$$

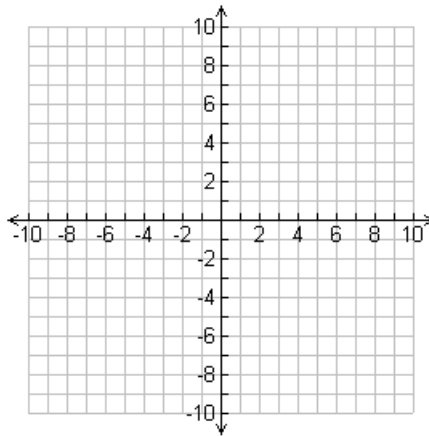
Strategy: Graph both equations. The intersection point will be the (x, y) pair that makes both equations true.

**Answer = (6, 5)****Plug back in to check**

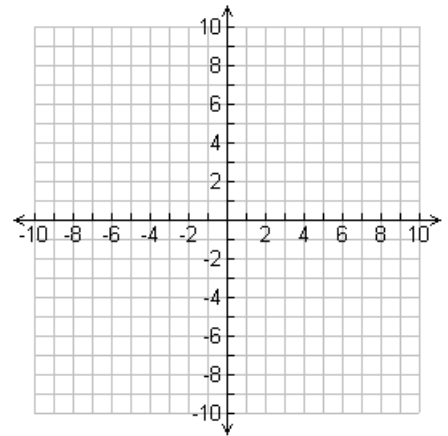
1)
$$\begin{cases} y = \frac{1}{2}x + 2 \\ y = -\frac{2}{3}x + 9 \end{cases}$$



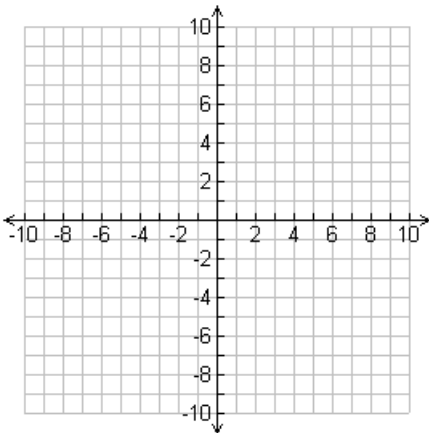
2)
$$\begin{cases} y = 2x - 8 \\ y = -3x + 7 \end{cases}$$



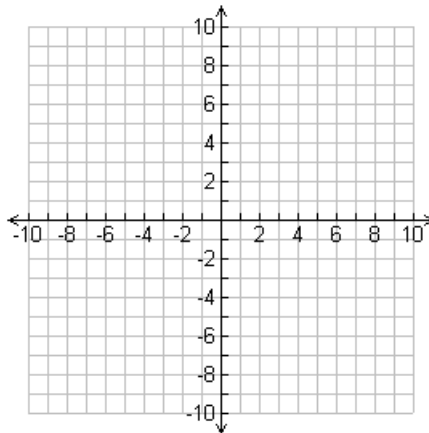
3)
$$\begin{cases} y = x + 5 \\ y = 4x - 7 \end{cases}$$



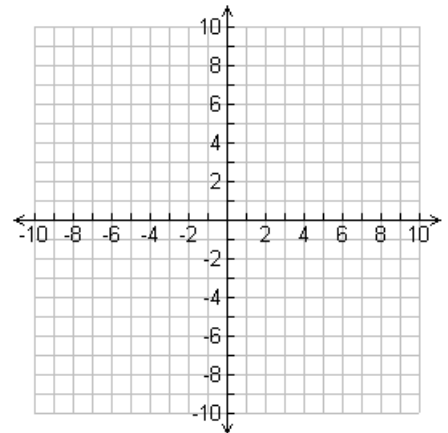
4)
$$\begin{cases} 2y - 16 = x \\ y - 3 = -\frac{1}{3}x \end{cases}$$



5)
$$\begin{cases} 4y - 12 = x \\ x + y = -2 \end{cases}$$

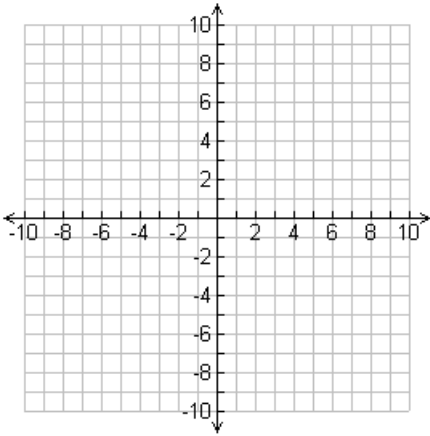


6)
$$\begin{cases} 2y = -5x \\ 4x + y = 6 \end{cases}$$

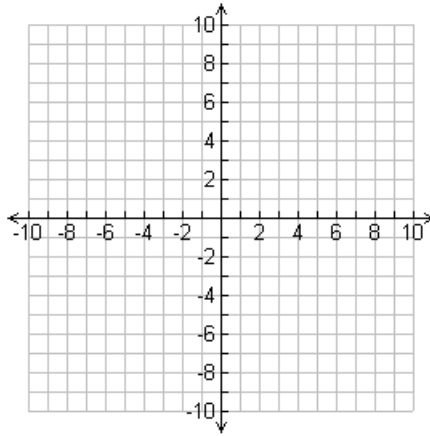


CHOOSE TWO of the problems from #1-6, and check your solution by plugging both numbers into **BOTH** equations.

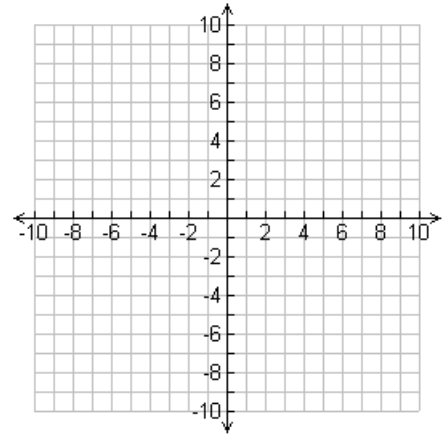
$$7) \begin{cases} y - 1 = 3(x - 1) \\ y + 2 = -\frac{2}{3}x \end{cases}$$



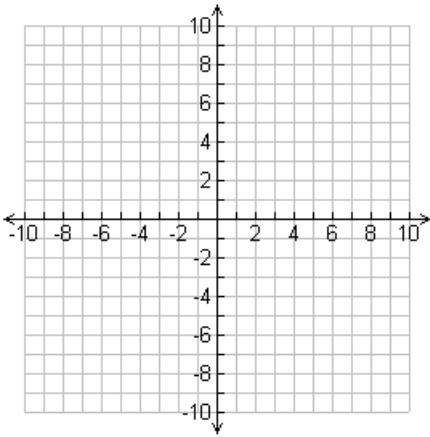
$$8) \begin{cases} x + y = 8 \\ y = \frac{3}{2}x - 7 \end{cases}$$



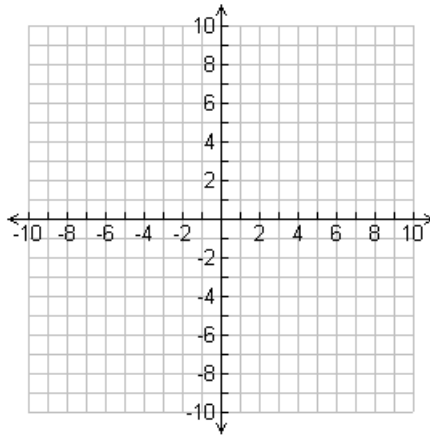
$$9) \begin{cases} 3x + 4y = 24 \\ y + 4 = x + 3 \end{cases}$$



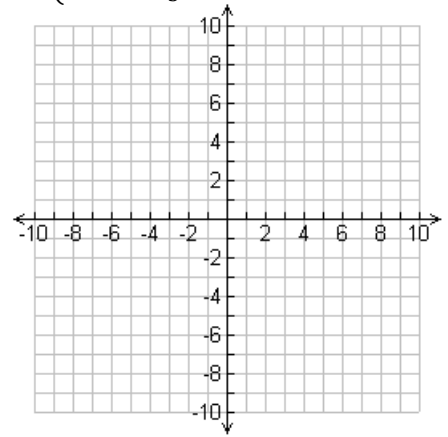
$$10) \begin{cases} y = 6 \\ x = 4 \end{cases}$$



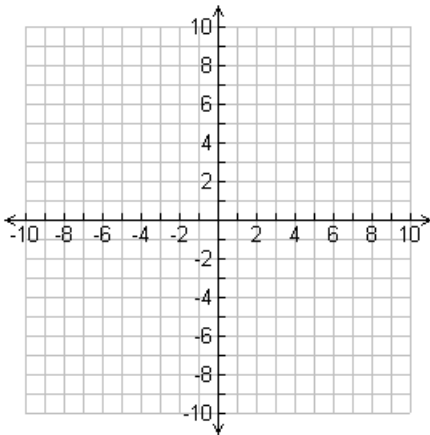
$$11) \begin{cases} 5x + 3y = 30 \\ 10x - 2y = 20 \end{cases}$$



$$12) \begin{cases} y - 2 = \frac{2}{3}(x + 3) \\ y = \frac{2}{3}x + 1 \end{cases}$$



- 13) Line through $(-6, 10)$ and $(-3, 8)$
Line through $(-4, -10)$ and $(-2, -6)$



- 14) Creative Crafts gives scrapbooking lessons for \$15 per hour plus a \$20 supply charge. Scrapbooks Incorporated gives lessons for \$20 per hour with no additional charges.

a) Write an equation for each situation where x is the number of hours and y is the total cost.

b) Graph both equations. Hint: you will need to scale your y -axis by more than 1.

c) Write the point of intersection, and explain what both of these numbers mean in the context of the problem.

