Show your work   Box Your Answers   Calculators Allowed   Simplify All Fractions
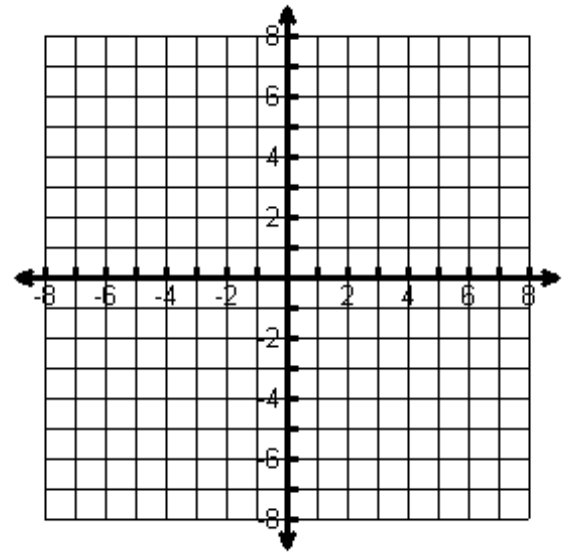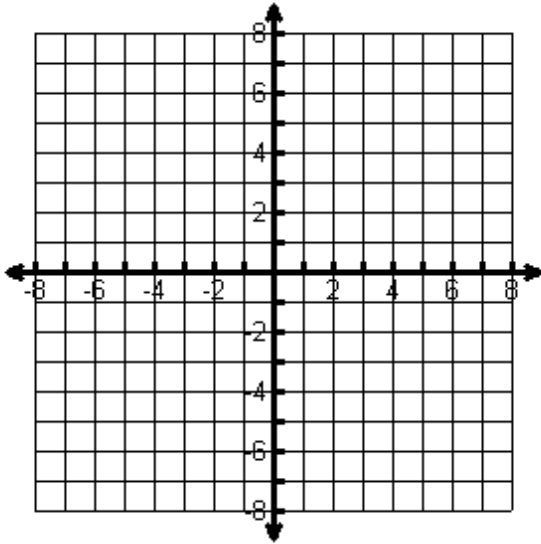
For questions 1-2, graph the two lines given below and find their EXACT point of intersection. You may have to use algebra or your graphing calculator if the intersection is not at integer coordinates.

1) $y = -3x + 2$ and $y = \frac{2}{3}x - 5$

2) $y - 4 = \frac{1}{2}(x + 3)$ and $2x + 5y = 14$

Solve the systems of equations using substitution or elimination. (find the one point that works in both equations. Remember, there could be 0, 1 or infinite solutions).

3) $6x + 4y = -8$

$y = \frac{1}{2}x + 2$

4) $2x + 5y = 31$

$4x - y = 7$

5) $6x - 4y = 10$

$-9x + 6y = -15$

For questions 6-9, you may solve the system of equations using any method you prefer.

6)
$$3x - 4y = -1$$
$$-6x + 8y = 2$$

7)
$$x + 3y = -4$$
$$3x + 2y = 3$$

8)
$$2x + y = 5$$
$$y + 2x = 7$$

9)
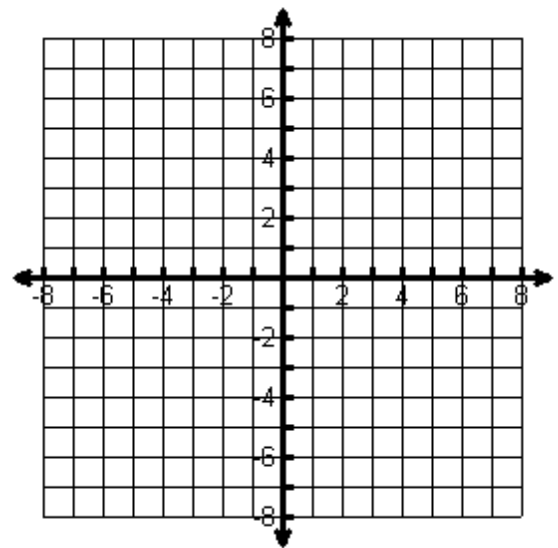$$6x + 8y = 39$$
$$y = 2x - 2$$

10) Give an example of system of equations with **no solutions**.
Your example can be a graphing example OR you can list two
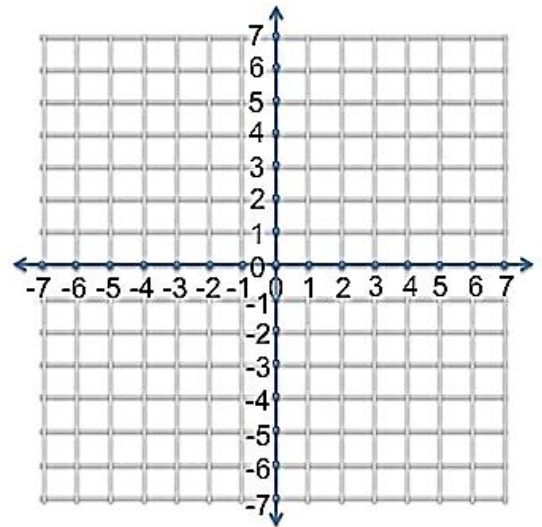equations that have no solutions.
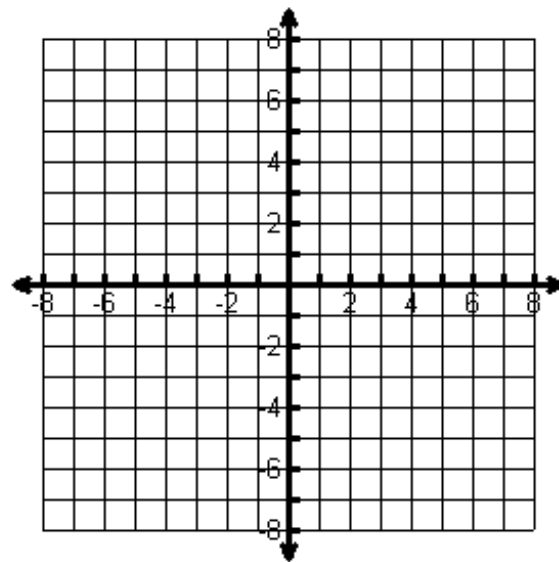
11) Give an example of system of equations with a solution at $(-2,7)$.
You can use the coordinate plane to the right as a guide, but must list
two equations that have the point as a solution.

12) Graph the system of linear inequalities
   and identify the solution.
$$2x - y > -4$$
$$x \geq 0$$

13) Graph the system of linear inequalities
   and identify the solution.
$$y > \frac{5}{6}x - 3$$
$$y \geq \frac{-2}{3}x + 4$$