

MPM 1D Handout
Linear Systems of Equations

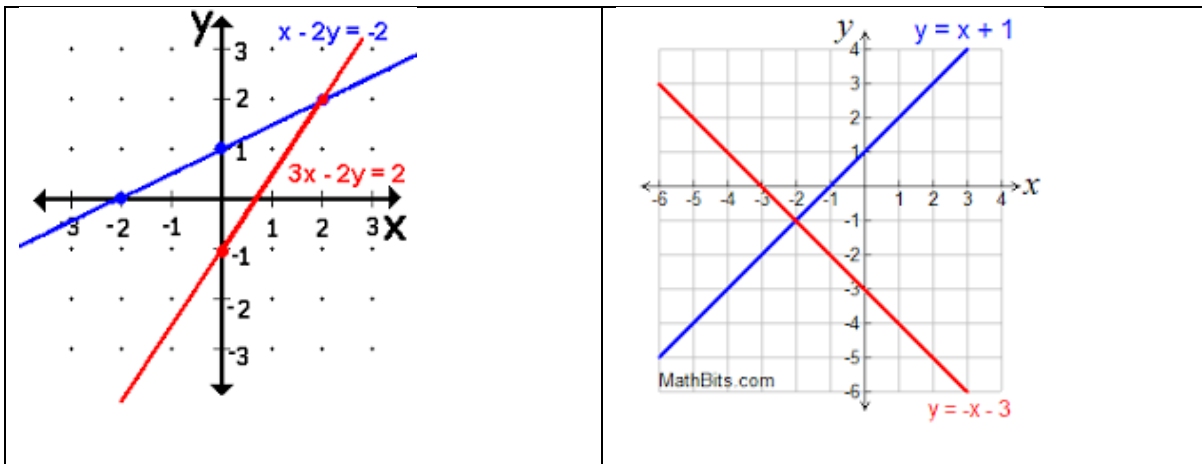
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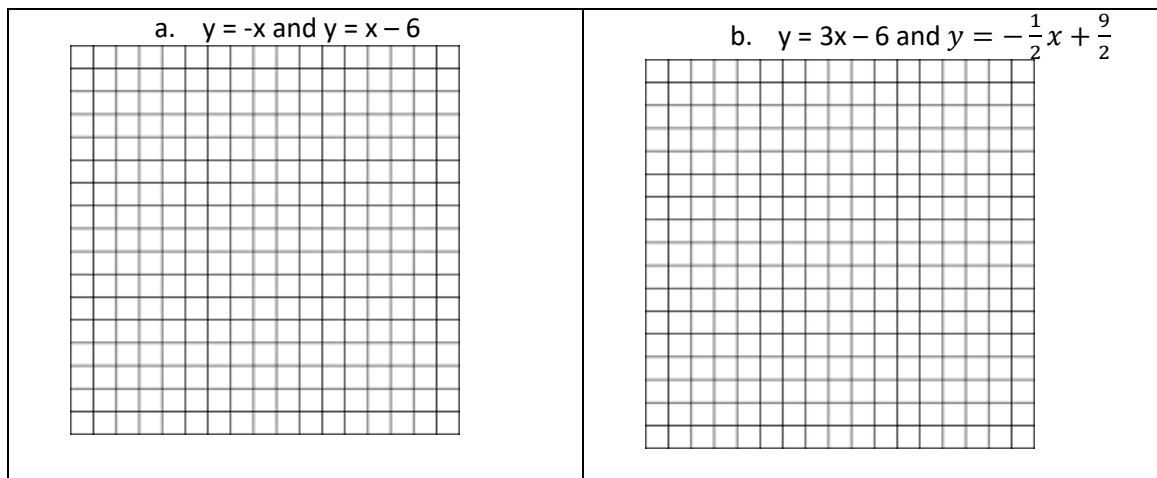
Important Stuff to Remember:

- We can graph a linear relation using a table of values (plugin values for x to get values for y, plot the points).
- We can graph using an equation in $y = mx + b$ form (plot b, then count the rise and the run from b to get another point).
- We can graph a linear relation by finding its intercepts.
 - To get y-intercept, let $x = 0$.
 - To get x – intercept, let $y = 0$.
 - Plot both points and connect them.
- The solution to a linear system of equations is just their point of intersection.

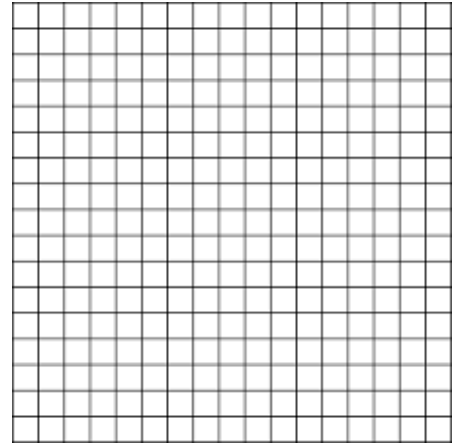
1. State the solution to each linear system shown below.



2. Solve the linear systems of equations provided below by graphing.



3. Graph $x - y = 8$ and $x + 2y = 2$ by finding the x and y intercepts. State the solution to this linear system of equations.

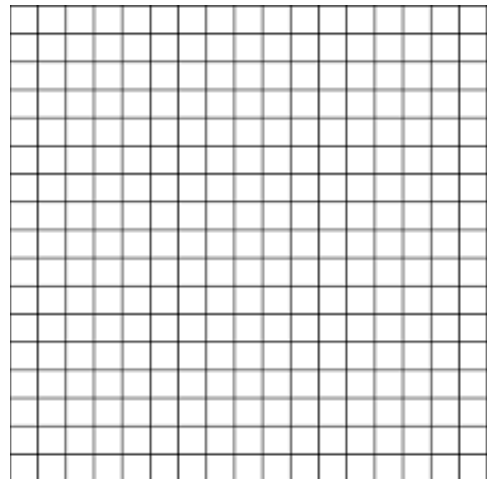


4. A recording artist is offered two deals for her fourth CD release.
- Royalty only: \$1 per CD sold.
 - Partial royalty: \$2000 plus \$0.50 per CD sold

Write an equation for each option, and then use Desmos to graph both lines. Where is the point of intersection, and what does it mean? If she sells 1500 CDs, which option should she choose? What if she sells 6000?

5. Guarantee Pool Repair charges \$50 for a service call plus \$40/h for labour. Oasis Pools and Spas charges \$30 for a service call plus \$45/h for labour.
- a. Write an equation for each business.

- b. Graph both lines.



- c. Find the length of a service call for which both companies charge the same amount.

Review of Previous Skills:

1. Use what you know about writing equations of lines to write an equation for each of the following lines. (Find slope and y-intercept!)

