

Name _____

Date _____

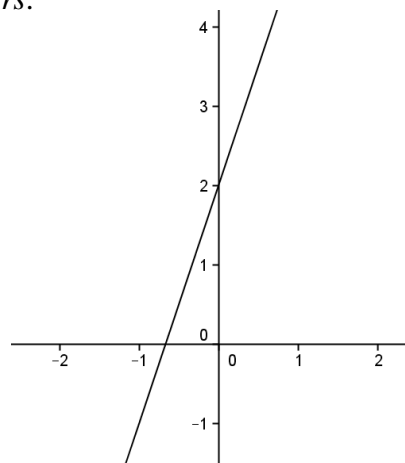
Math 8**Introduction to Systems of Equations**What's up with all those letters?

$$y=mx+b$$

1. If x and y are *variables*, what is a variable?
2. How are m & b different? m and b are called *parameters*.

Examining Solutions

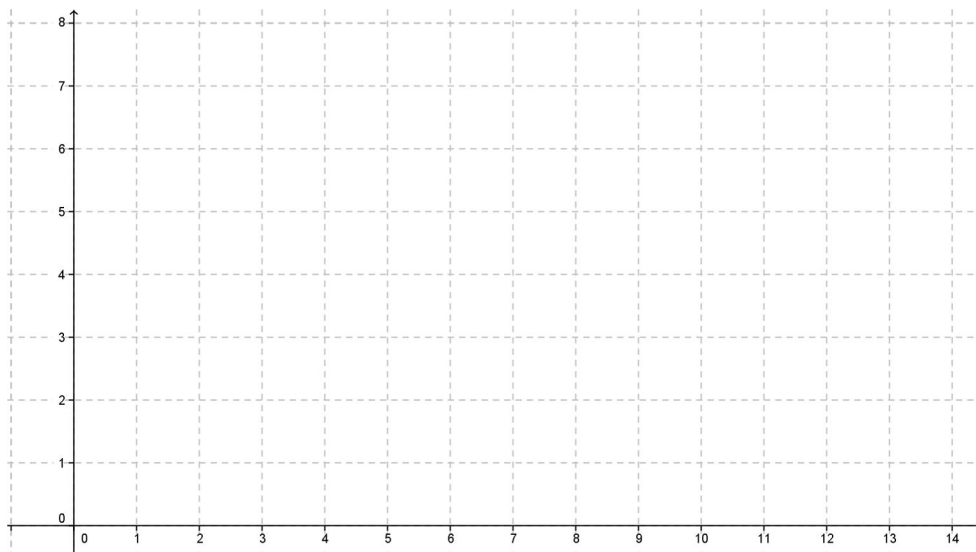
3. Is the point $(1,3)$ a solution to the equation $y=3x+2$?
4. How do you know?
5. How many solutions are there to the equation $y=3x+2$?

Comparing Two Lines

Plant A and Plant B are on different watering schedules. This affects their rate of growth. Compare the growth of the two plants to determine when their heights will be the same.

Plant A width	Plant A Height	Plant B width	Plant B Height
0 cm	4 cm	0 cm	2 cm
1 cm	6 cm	1 cm	6 cm
2 cm	8 cm	2 cm	10 cm
3 cm	10 cm	3 cm	14 cm

6. Based on the coordinates from the table, graph lines to represent each plant.



7. Write an equation that represents the growth rate of Plant A and Plant B.
8. At which week will the plants have the same height?

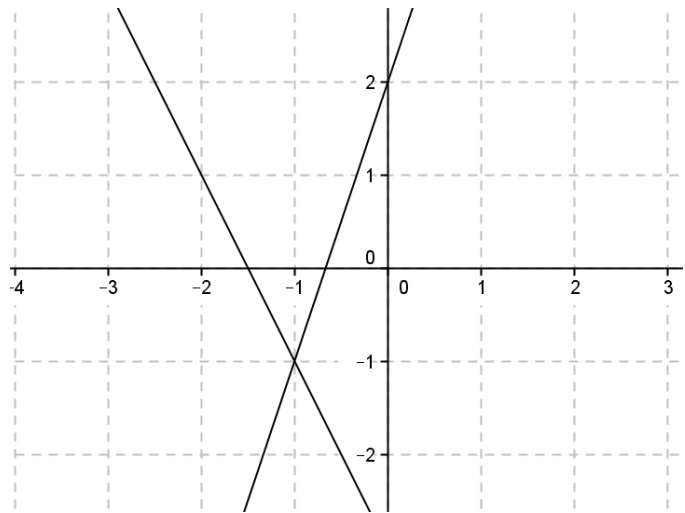
Systems of Equations

Sometimes we need to look at how two equations interact with each other. These are called *systems of equations*.

9. What do you think would be the solution to a system of equations? Think back to the problem about Plant A & Plant B.

Solutions from a Graph

10. What do you think is the solution to the system of equations here?
11. Can you make any generalizations about the solution to a system of equations?



Testing Solutions

12. If you were not given a graph, but only two equations, how would you know if a point was the solution? Think back to the solution to $y=3x+2$.
13. Which point is a solution to the system? (1,3) or (2,3)
 $y=2x-1$
 $y=\frac{1}{2}x+2$
14. Which point is a solution to the system? (1,7) or (2,12)
 $y=5x+2$
 $y=3x+4$