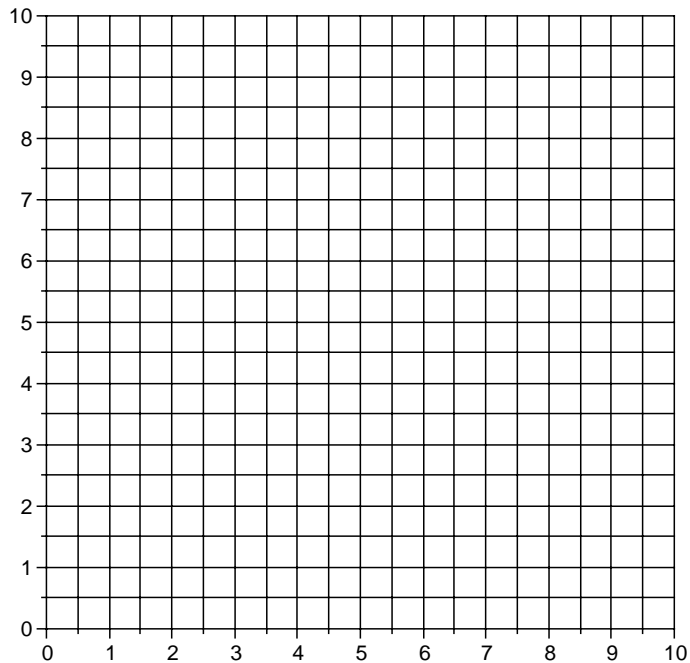


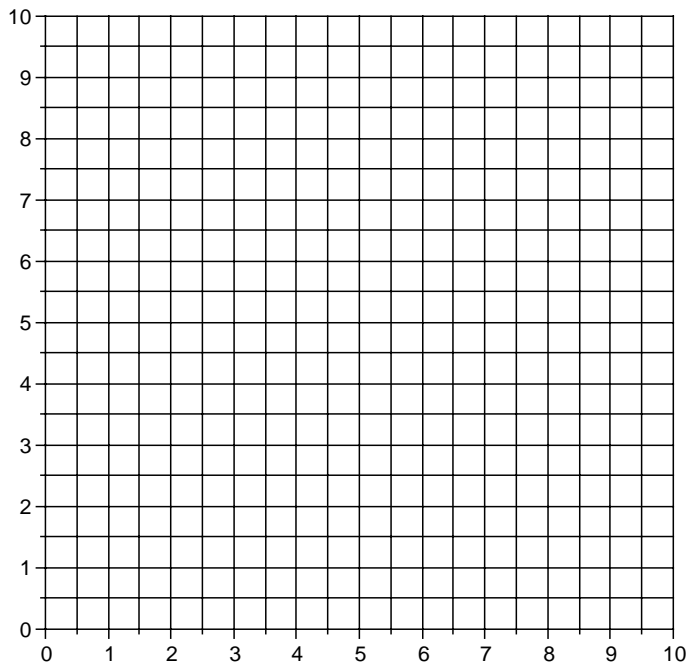
## Graphing Proportions

- Write four different ratios that are equivalent to  $\frac{1}{2}$  and write their decimal forms.  
 $\frac{1}{2}$ , \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- Using numerators from question 1 as values for x and denominators from question 1 for values of y, set up a scatter plot on the grid below.



- Make a prediction about the graph of all ratios that are equivalent to  $\frac{1}{2}$  and explain your thinking.
- What is the slope of the line that contains these equivalent ratios?
- How does the slope of the line compare to the decimal for each ratio?
- Now, write any 5 equivalent ratios of your own and their decimal forms. What do you predict the graph of these points will look like? Why?

7. Use the numerators from question 6 and denominators from question 6 as the x and y values and set up a scatter plot (or input into a graphing calculator if available) on the grid below.



8. Make a prediction about the graph of all ratios that are equivalent to your ratios and explain your reasoning.
9. What is the slope of the line that contains these equivalent ratios?
10. How does the slope of the line compare to the decimal for each ratio?
11. Why do you think that equivalent ratios create linear relations?