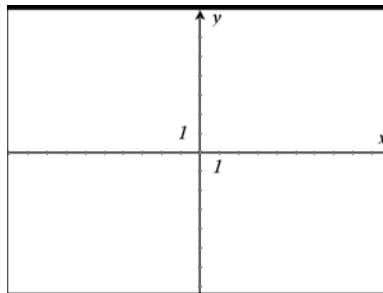
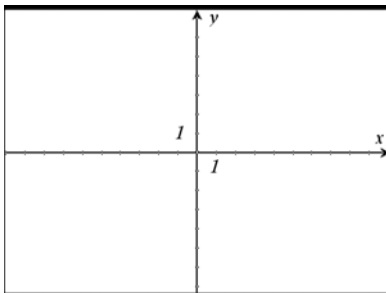
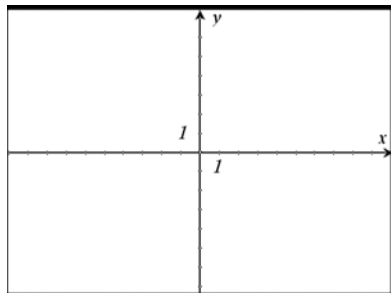


Slope Activity Worksheet

Problem 1

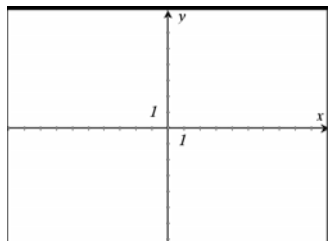
Sketch a few lines that you created on the Nspire. Write the equations of the lines and demonstrate the relationship between the slope of the line and the rise and run of the line.



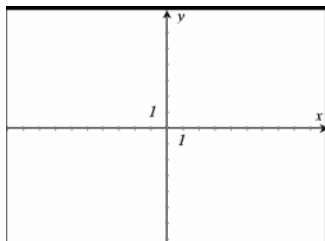
Problem 2

Graph $f_1(x)=x$. Rotate and move the line, observing the slope and y-intercept. Sketch four lines that you created on the Nspire and write their equations. Make sure each line fits the correct category.

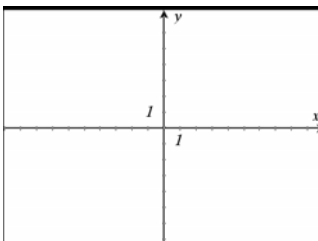
positive slope, positive y-int.



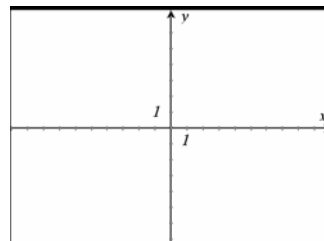
positive slope, negative y-int



negative slope, positive y-int

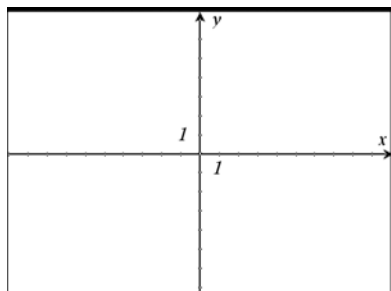


negative slope, negative y-int.



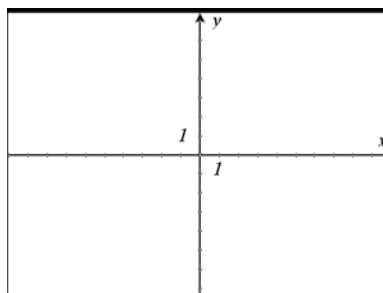
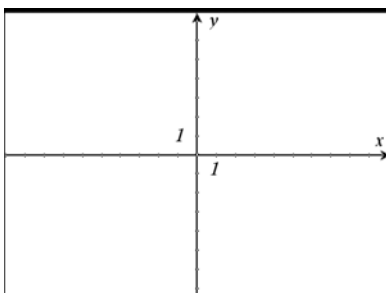
Problem 3

Rotate the 2 lines on this graph to create parallel lines. What do you notice about the slopes of the two lines? _____ You can click in the equations and type in whatever numbers you choose to test your conjecture. Sketch a graph of parallel lines and write their equations.



Now create two lines that are perpendicular. It will help to use "nice" numbers for the slope of the first line, such as 2, -3, $\frac{1}{2}$, $-\frac{1}{4}$, etc. Sketch 2 sets of perpendicular lines and record the slope. Try to discover the relationship between the slopes of perpendicular lines.

_____ If you have a conjecture, type in slopes for the two lines and see if they are perpendicular.



Problem 4

This last problem helps you more thoroughly understand the relationship of the slopes of perpendicular lines.