

INVESTIGATION: Special Cases of Lines

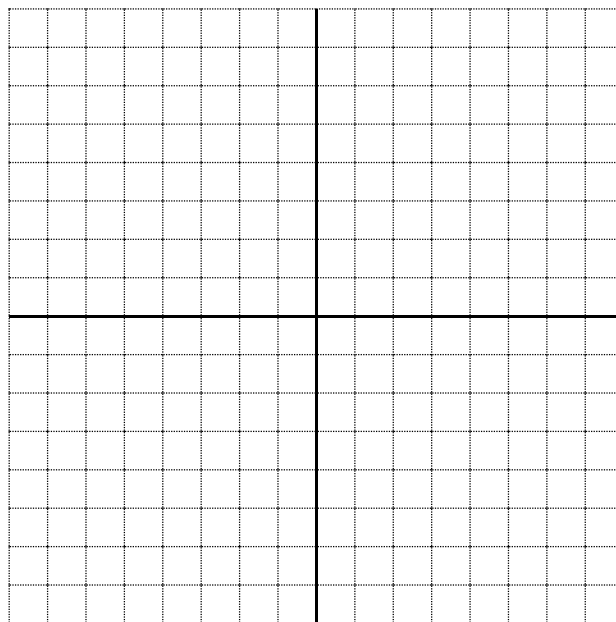
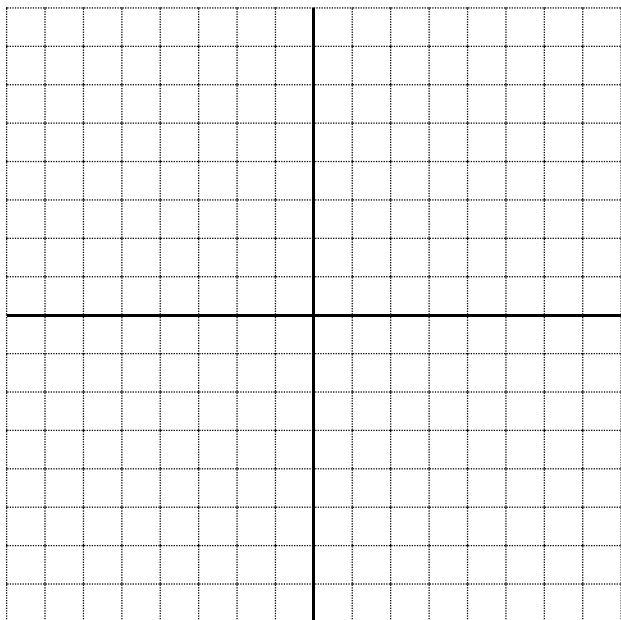
Name: _____

Special Case I

Graph each line equation on its own set of axes.

a) $y = 5x + 2$

b) $y = 5x - 1$



1. Describe the relationship between these two lines.

2. a) How are these lines alike?

b) How are these lines different?

3. What is the slope of each line? _____

4. Graph two more lines with this relationship.

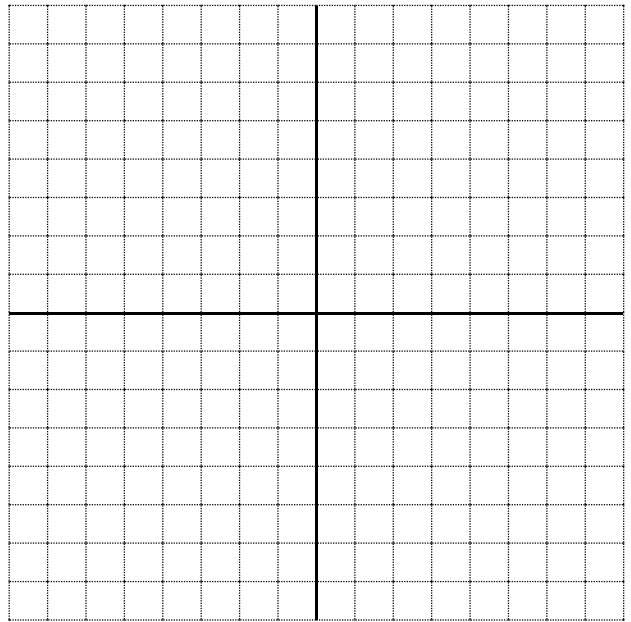
5. Write a summary of your findings regarding the above lines.

Special Case II

A) Graph these equations on the same set of axes.

a) $y = \frac{3}{4}x + 1$

b) $y = -\frac{4}{3}x - 2$



1. Estimate the size of the angle formed by these lines. _____

2. Check with a protractor. _____

3. What is the relationship between these lines?

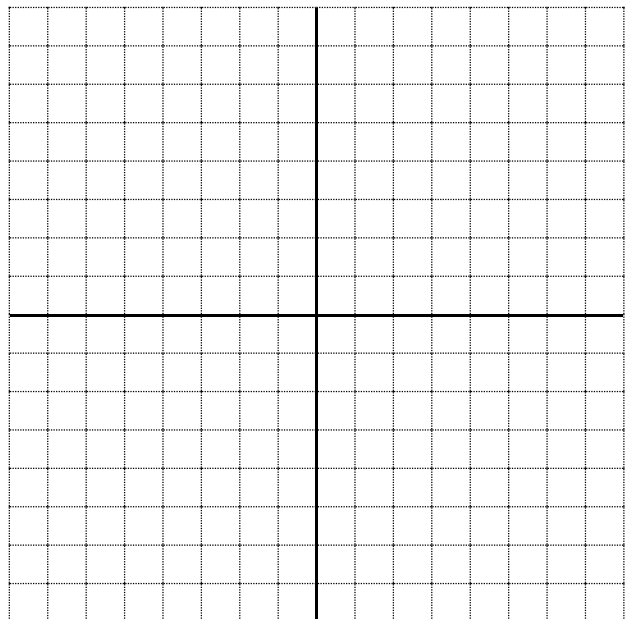
4. What is the slope of each line? _____

5. How are these slopes related? _____

B) Graph these two lines on the same set of axes.

c) $y = 2x$

d) $y = -\frac{1}{2}x$



Conclusion? _____

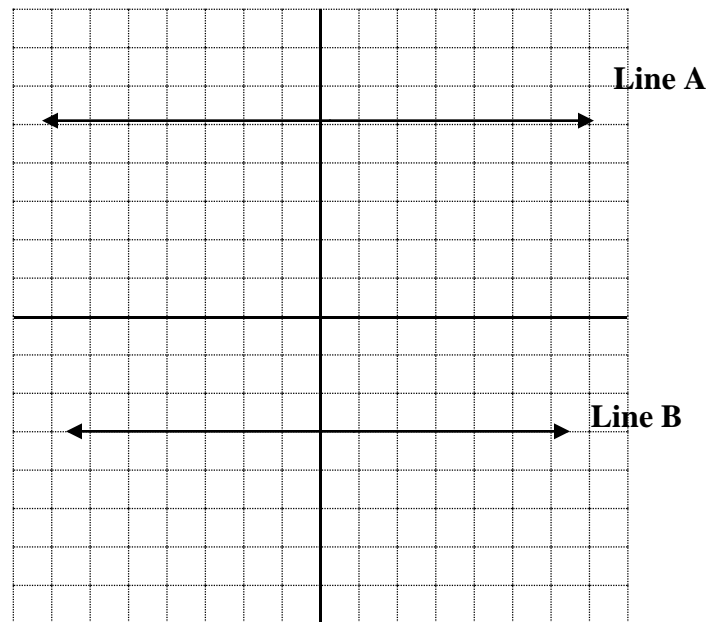
Special Case III

Write the coordinates for four points on Line A

(,) (,) (,) (,)

Write the coordinates for four points on Line B

(,) (,) (,) (,)



1. What pattern do you see in your list of points?

2. How are lines A and B the same?

How are they different?

3. If you made a table of values for the two lines, predict what the table would look like?

4. Slope represents the rate of change. Predict the value for the slope of the two lines above.

5. Use two points on each line to find the slope of each line.

6. Write the equation of the line.

7. Conclusion:

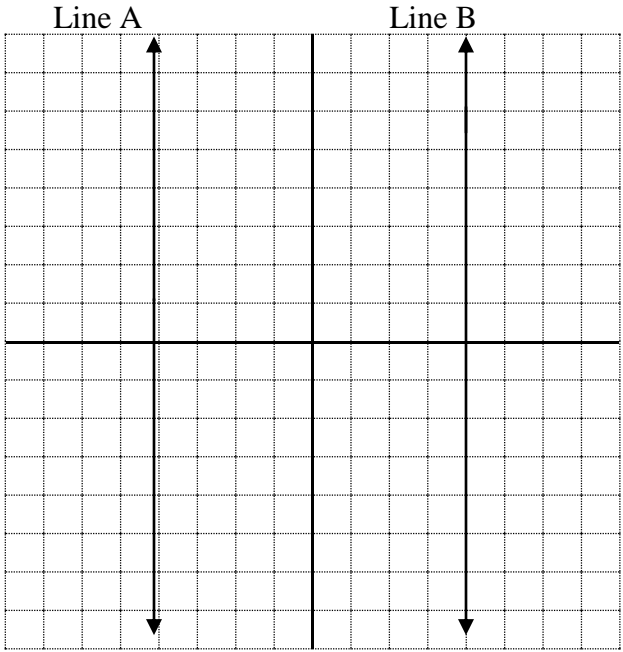
Special Case IV

Write the coordinates for four points on Line A

(,) (,) (,) (,)

Write the coordinates for four points on Line B

(,) (,) (,) (,)



1. What pattern do you see in your list of points?

2. How are lines A and B the same? _____

How are they different? _____

3. If you made a table of values for the two lines, predict what the table would look like?

4. Slope represents the rate of change. Predict the value for the slope of the two lines above. _____

5. Use two points on each line to find the slope of each line.

6. Write the equation of the line.

7. Conclusion: _____