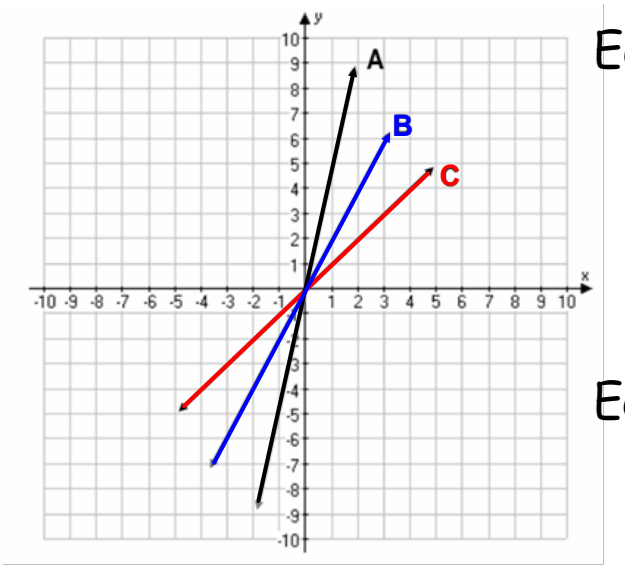
March 10, 2016

Linear Investigation

INVESTIGATION #1:

1. Find the equation of each line.



Equation of Line A

Equation of Line B

Equation of Line C

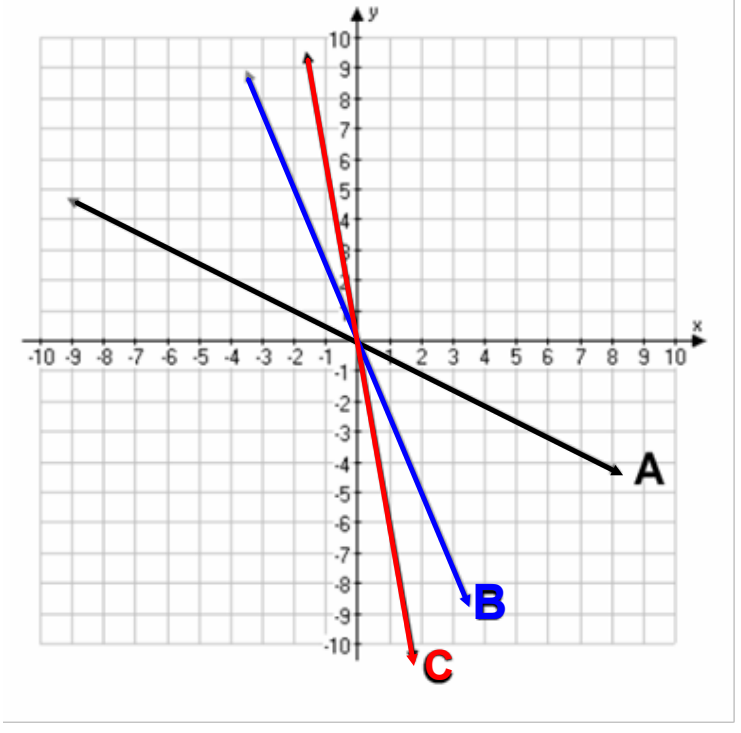
2. Which line is the steepest?

3. Which line is the least steep?

4. Make a general rule about the slope of lines.

INVESTIGATION #2:

1. Find the equation of each line.



Equation of Line A

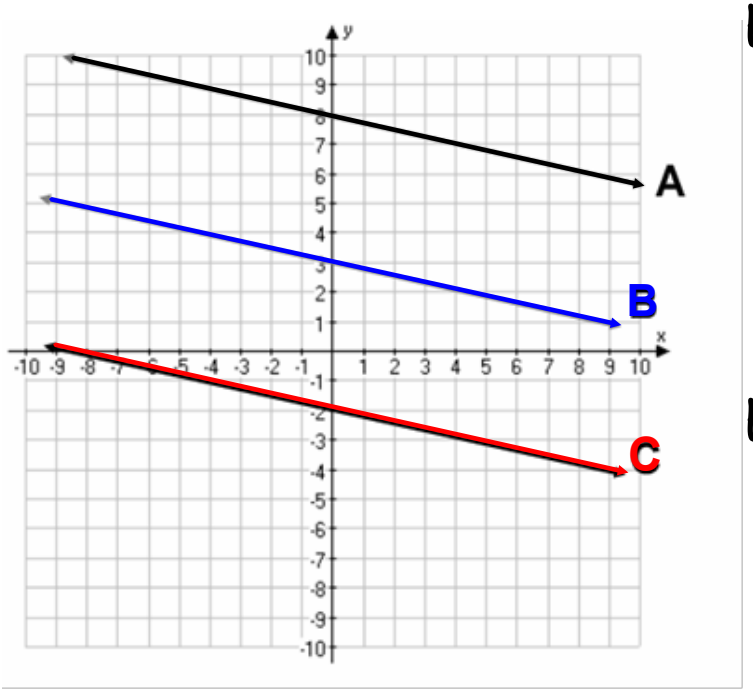
Equation of Line B

Equation of Line C

2. Make a general rule about the slope of lines.

INVESTIGATION #3:

1. Find the equation of each line.



Equation of Line A

Equation of Line B

Equation of Line C

2. What do you notice about the slopes of these lines?

3. Describe the relationship between lines that have the same slope.

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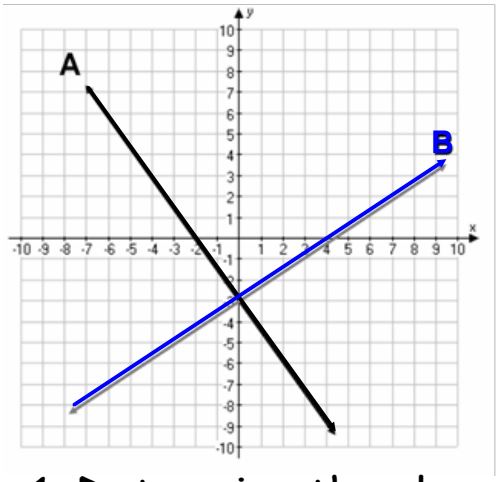
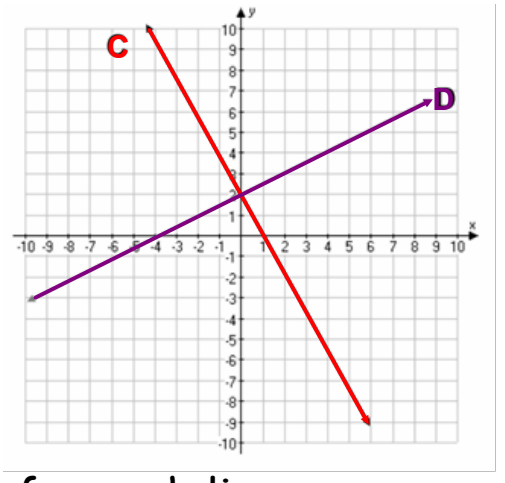
INVESTIGATION #4:





1. Determine the slopes for each line.

Line A Line B Line C Line D

2. Determine the equation of each line.

Line A Line B Line C Line D

3. What do you notice about the slopes of Lines A and B? What do you notice about the slopes of line C and D?

4. Describe the relationship between lines A and B and the relationship between lines C and D.

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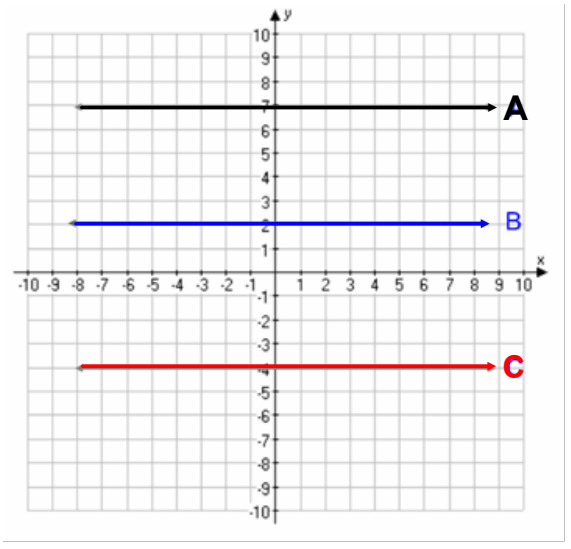
INVESTIGATION #5:

1. Find the slope of each line.



Slope of Line A

Slope of Line B

Slope of Line C

2. Determine the equation for each line.

Line A Line B Line C

3. What do you notice about the slopes of these lines?

4. Make a general rule about the slope of horizontal lines.

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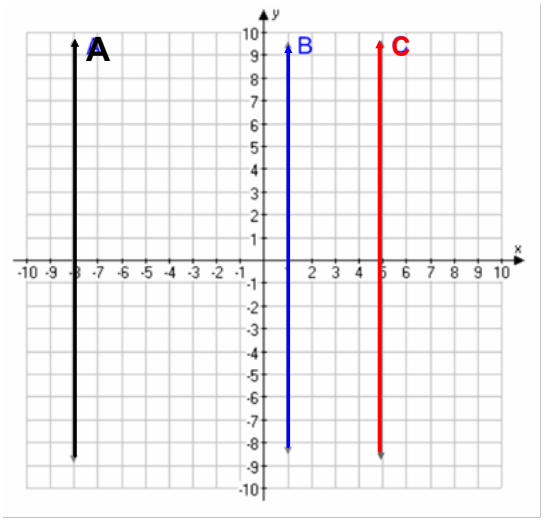
INVESTIGATION #6:

1. Find the equation of each line.



Slope of Line A

Slope of Line B

Slope of Line C

2. Determine the equation for each line.

Line A Line B Line C

3. What do you notice about the slopes of these lines?

4. Make a general rule about the slope of vertical lines.

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HOMEWORK:

Parallel, Perpendicular, Horizontal and Vertical Lines Hanout:

Part A, Part B and Part C

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KEY IDEAS

1. The greater/larger the slope the **steeper** the line (NOT including the sign)

2. The smaller the slope the more **gradual** the line(NOT including the sign) (less steep)

3. Parallel lines have the **same** slope

4. The slopes of Perpendicular lines are **flipped** and the signs are **switched!**

5. Horizontal have a slope of **zero** Their equation is where the line crosses the y-axis (Eq'n is y = #)

6. Vertical have slopes that are **undefined.** Their equation is where the line crosses the x-axis (Eq'n is x = #)