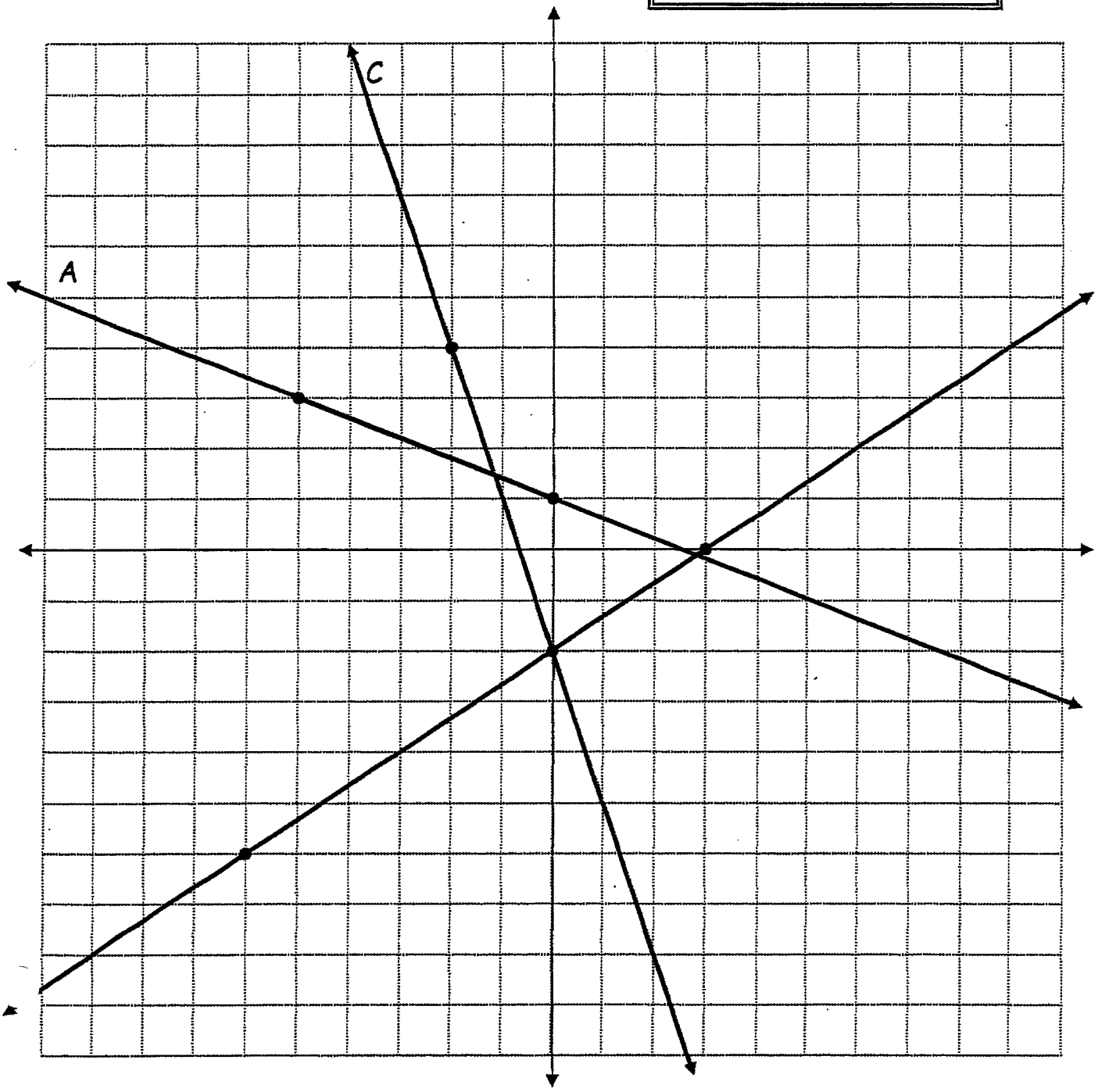
Algebra 1
Parallel Lines Investigation

Name: _____ Date: _____ Mod: ____

Directions: Graph the points and use a ruler to draw the line that passes through them. Use the designated color to draw each line.

RED:	(-3, 2)	(0, 4)
BROWN:	(-5, -1)	(5, -5)
GREEN:	(1, 1)	(2, -2)

Given Lines and Their Points		
A:	(0, 1)	(-5, 3)
B:	(3, 0)	(-6, -6)
C:	(-2, 4)	(0, -2)



Algebra 1
Perpendicular Lines Investigation

Name: _____ Date: _____ Mod: ____

Directions: Use the equations of each pair of perpendicular lines to answer the following questions.

4. What do you notice about the slopes in each pair of equations?

5. What do you notice about the y-intercepts of in each pair of equations?

6. What general statement can you make about the equations of perpendicular lines in relation to $y = mx + b$?

Directions: Answer the following the questions using the knowledge you gained from your investigation.

1. Are $y = 3x + 7$ and $y = 3x - 8$ perpendicular to each other? YES or NO
2. Are $y = \frac{2}{3}x - 2$ and $y = -\frac{3}{2}x + 1$ perpendicular to each other? YES or NO
3. Name 3 lines that are perpendicular to $y = 2x - 3$.

4. Name 3 lines that are not perpendicular to $y = 5x - 2$.

Algebra 1
Parallel Lines Investigation

Name: _____ Date: _____ Mod: ____

The equation of Line A is $y = -\frac{2}{5}x + 1$.

The equation of Line B is $y = \frac{2}{3}x - 2$.

The equation of line C is $y = -3x - 2$.

Directions: Use the points given to write the equation of each line in slope-intercept form.

RED LINE	BROWN LINE	GREEN LINE

Directions: Use your graph to help answer the following questions.

1. Which colored line is parallel to line A? _____

   What are the equations of these 2 lines?

2. Which colored line is parallel to line B? _____

   What are the equations of these 2 lines?

3. Which colored line is parallel to line C? _____

   What are the equations of these 2 lines?

Algebra 1
Perpendicular Lines Investigation

Name: _____ Date: _____ Mod: ____

The equation of Line A is $y = -\frac{2}{5}x + 1$.

The equation of Line B is $y = \frac{2}{3}x - 2$.

The equation of line C is $y = -3x - 2$.

Directions: Use the points given to write the equation of each line in slope-intercept form.

BLUE LINE	PURPLE LINE	ORANGE LINE

Directions: Use your graph to help answer the following questions.

1. Which colored line is perpendicular to line A? _____

   What are the equations of these 2 lines?

2. Which colored line is perpendicular to line B? _____

   What are the equations of these 2 lines?

3. Which colored line is perpendicular to line C? _____

   What are the equations of these 2 lines?

Algebra 1
Parallel Lines Investigation

Name: _____ Date: _____ Mod: _____

Directions: *Use the equations of each pair of parallel lines to answer the following questions.*

4. What do you notice about the slopes in each pair of equations?

5. What do you notice about the y-intercepts of in each pair of equations?

6. What general statement can you make about the equations of parallel lines in relation to $y = mx + b$?

Directions: *Answer the following the questions using the knowledge you gained from your investigation.*

1. Are $y = 3x + 7$ and $y = 3x - 8$ parallel to each other? YES or NO
2. Are $y = \frac{2}{3}x - 2$ and $y = \frac{3}{2}x + 1$ parallel to each other? YES or NO
3. Name 3 lines that are parallel to $y = 2x - 3$.

4. Name 3 lines that are not parallel to $y = 5x - 2$.

Algebra 1
Perpendicular Lines Investigation

Name: _____ **Date:** _____ **Mod:** ____

Directions: Graph the points and use a ruler to draw the line that passes through them. Use the designated color to draw each line.

BLUE:	(0, 2)	(2, -1)
PURPLE:	(-3, 6)	(-6, 5)
ORANGE:	(4, 0)	(6, 5)

Given Lines and Their Points		
A:	(0, 1)	(-5, 3)
B:	(3, 0)	(-6, -6)
C:	(-2, 4)	(0, -2)