Rayvon Sapp, Edward Ferguson

Teacher's Name: Ms. Gasser

Algebra 1, ___C__ Band

Algebra 1, Quarter 3 Benchmark: Make Your Own Design!

<u>Introduction</u>: This is Eddie and Rayvon's algebra 1 benchmark project! In this project, we used artwork as a way to show graph lines and equations for said line graph. Our graph art is the symbol of DC's Batman. We chose this art because we are both superhero fans and we think the batman signal is very cool. The skills we will demonstrate are how to identify types of lines and their equations and break different equations down! We also took another leap by learning domain and Rage. What is Domian and Rage? Domain an Rage is When see the rage and the area of a line usually lines can go on forever.

[**TASK #2**: Insert an image of your artwork on graph paper.]

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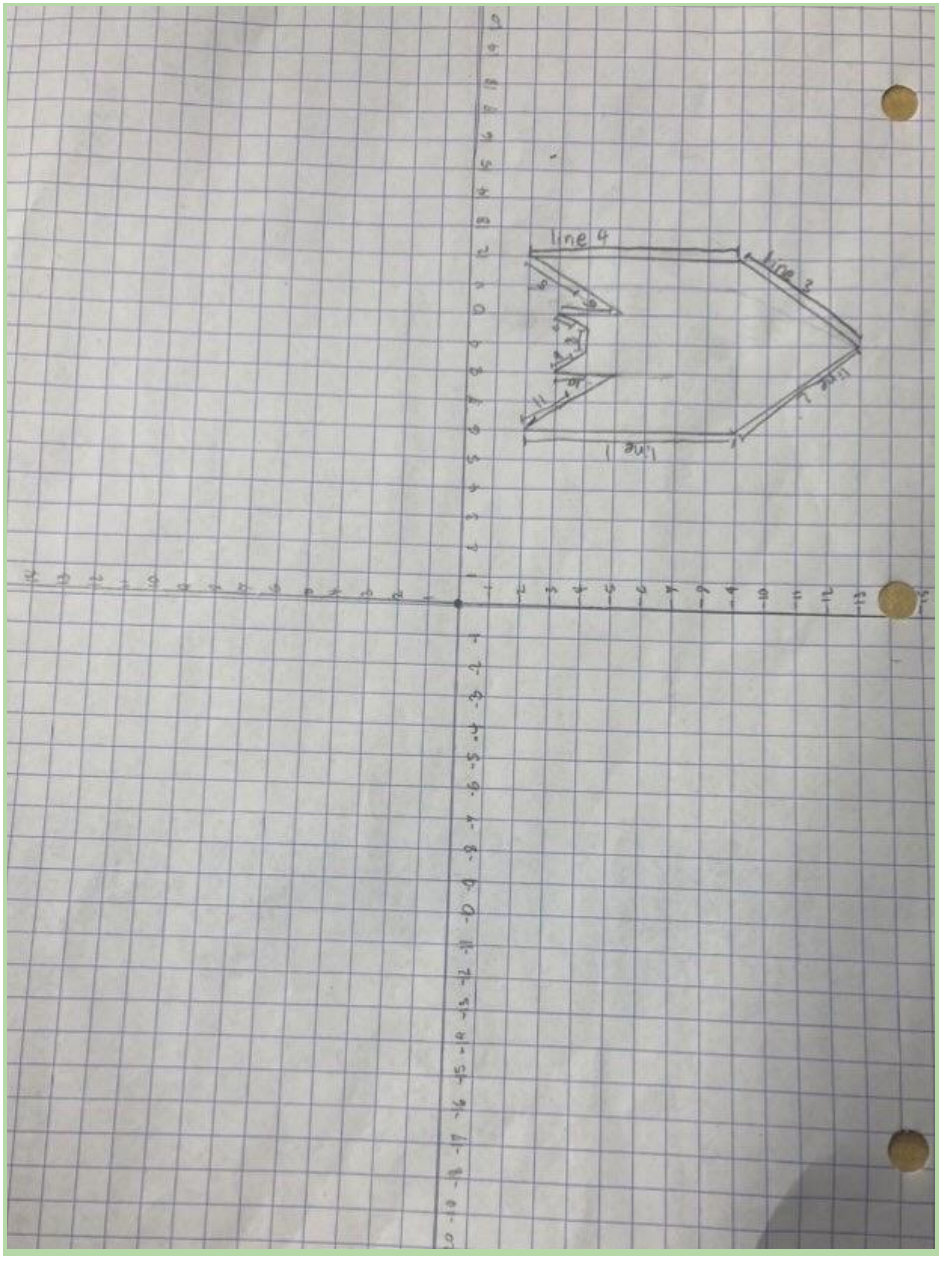

<u>Tutorial on Finding Equations of Lines (TASK #3)</u>

1. **Slope-intercept form**

   The points for the graph are (6,-2),(8,-5),(10,-5),(12,-2),(12,-13),(6,-13)

   [The points in y-intercept are (6,-2],(8,-5],

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[Explain the process for graphing an equation in slope-intercept form on a coordinate plane] We identify which number and x1 and x2 and y1 and y2. Then we put them in the correct order (y2-y1/x2-x1) in a fraction and solve it.

2. **Point-slope form**

   [Explain the process for finding the equation of a line in point-slope form when given a line on graph paper]

   Once you do slope intercept form, you have to convert it to y=m(x-x)+y1

   [Explain the process for graphing an equation in point-slope form on a coordinate plane]

   To graph it you will type in an equation in to create lines on desmos graphing:

   y=m(x-x1)+y1

   y= -3/2(x-6)-2

3. **Horizontal lines**

   [Explain the process for finding the equation of a horizontal line when given a line on graph paper] We y on the top and x on the bottom and then write the numbers into an equation, -4-(-5)/ 10-9 which gave me -9/1.

   [Explain the process for `graphing a horizontal line on a coordinate plane]

4. **Vertical lines**

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[Explain the process for finding the equation of a vertical line when given a line on graph paper] For finding the equations for the Vertircal lines you have to start off with X because that make the lines straight

[Explain the process for graphing a vertical line on a coordinate plane]

5. **Parallel lines**

[Explain the relationship between the slope and y-intercept of parallel lines variables]

The relationship between slope and y-intercept

6. **Perpendicular lines**

[Explain the relationship between the slope and y-intercept of perpendicular lines]

The slope of a perpendicular line has to be reciprocated for the equation to be correct. The equation of the line has to be put in slope-intercept form.

[Now I'll present the Equations.]

Equations for your lines **(TASK #4)**:

[In this section, you should write the equations for each of your lines and show any necessary work.]

[For the first line I did y= -3/2 (x-6)-2 {6<x<8},I go this by doing -5 - -2 over 12- 10 then that got me -3/2 which I turned into y=-3/2x-5. For the second one I did x=12 {-13<y<-2} I did this also for four lines because those lines were parallel/Vertical.
Vertical/parallel lines
.X=8{-5<y<-4}
.X=6 { -13<y<-2}
.X.=10{-5<y<-4}
X=12{ -13<y<-2}

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The resoson we switch it to X is because you want the line to go straight throught the X axis I use domain and rage for all my equations. These are Horizontal, and Prependicular.

.Y=-5{8<x<10}

.Y=12/9 (x-9) -17 {6<x<9}

.Y=3/2 (x-10)-5{10<x<12}

.Y=1.33(x - 9) -17 {9<x<12}

.Y=-3/2 (x -6) -2 {6<x<8}

[TASK #5: Insert an image of your artwork on DESMOS.

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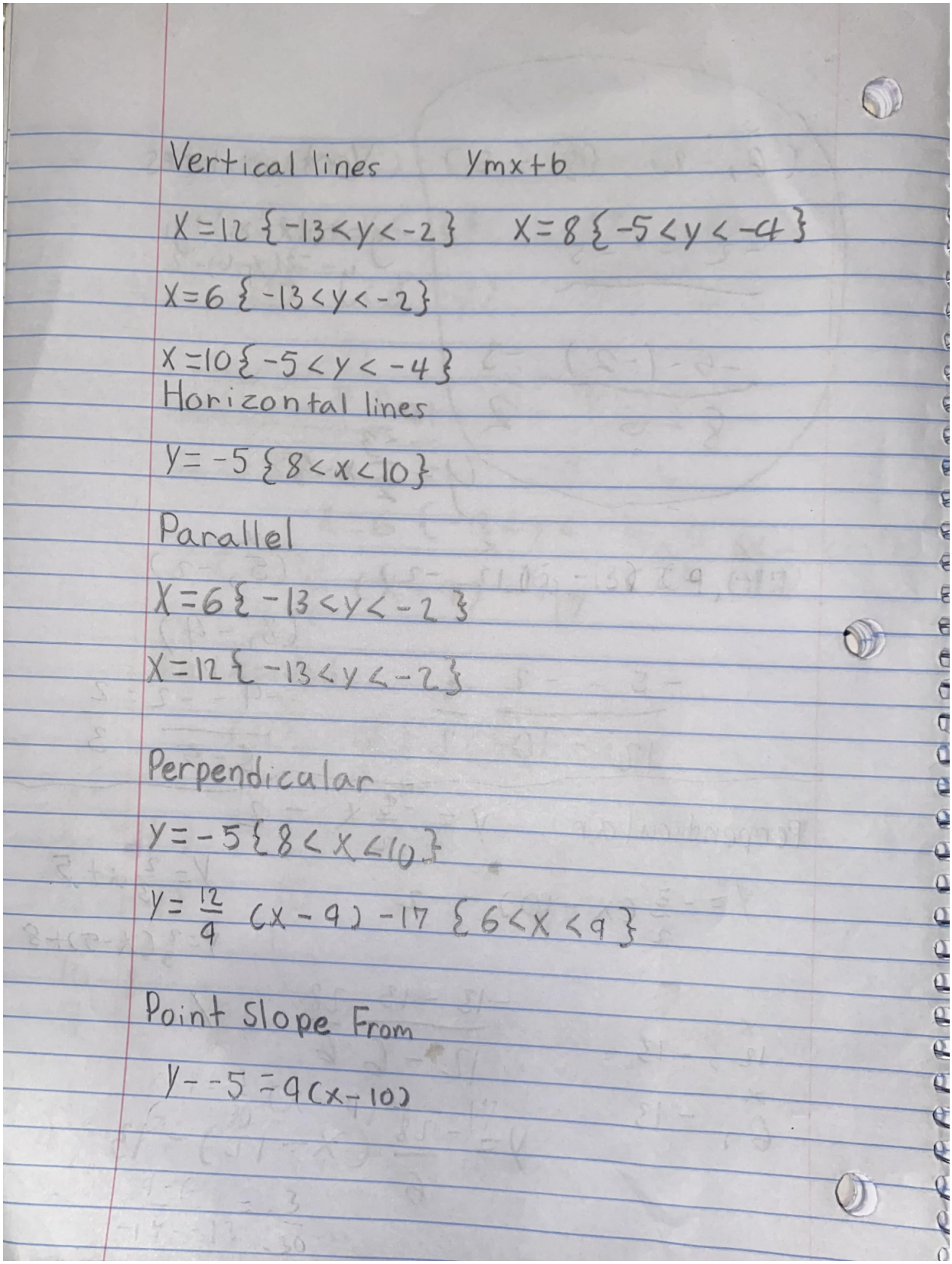

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Reflection

[Write a paragraph that answers the following questions:

1. What did you do well throughout the whole process?

   I feel like me and Ray had great communication we talked about the project outside of school.I feel like Me and Ray also did well with the math and I helped Ray understand it more.It was also fun that I learned a algebra two concept and I when I got the grasp I share the concept with Ray and he worked through it.

2. How did you improve from the previous two benchmark project experiences?

   I think I was more motivated to get it done and I had help to so If I didn't know it Ray did and if he didn't know it I did so it was a huge upgrade from my last benchmarks.

3. What did you learn by doing this benchmark?]

   Me and Ray learned a whole new concept. Domain and Rage it was learning a trying out this concept in this project. It also worked our brains to learn a new concept and applying it to this Benchmark.

Only if you worked with a partner… Write 1 paragraph that answers: What did your group learn by doing this benchmark?
Me and Ray learned how to graph Y intercepts and point slope. We also learned how to graph Domain and Rage which was very interesting and helpful for our shape. We practiced Identifiing lines like Parallel,Perpendicular,Horizontal, and Vertical. One thing I wished we did alot better was meet the in class deadlines.But over all Me and Ray worked hard I hope people like our project and learn from it.