

Name: _____ Due Date: _____ Per.: _____

Algebra 1 Slope Project/ Mrs. Nguyen

This project will be a picture you design, made of line segments. You will write two points on each line calculate the slope and the equation of the line. Your grade will be based on accuracy and neatness. **The project is worth a total of 100 points and will be counted as a major grade. The Slope Project Rubric needs to attach with the project in order to receive credit.**

It will be graded using the rubric/checklist included on the back of this page. You may do the project by yourself or with another partner of your choice. You will be given **ONE** class period to work on the project, any additional time will need to be taken at home; make the most of the time you're given!

Directions:

- 1) Center and draw a large coordinate plane on a piece of graph paper.
- 2) Label the x- and y-axes and scale the axes by ones.
- 3) Draw a design or picture using at least 10 line segments. You may use only straight lines and use all four quadrants. You must have at least 2 vertical, 2 horizontal, 3 positive and 3 negative lines. Each line must have a different equation. No more than two lines may have the same slope. You may have more than 10 lines but you only need to calculate 10!
- 4) Complete the design on your graph paper. Mount the design on $\frac{1}{2}$ of a poster board.
- 5) Highlight:
 - a) A **negative** slope in Quadrant I
 - b) A **undefined** slope in Quadrant II
 - c) A **zero** slope in Quadrant III
 - d) A **positive** slope in Quadrant IV
- 6) In a paragraph form, explain how to find the slope of any given line segment and the equation of a line segment given two points. These explanations should be done on a separate sheet of paper (neatly hand-written OR typed) and mounted to the poster board.
- 7) Slopes and equations for four segments:
 - a) List the four segments you have highlighted giving the coordinated of the endpoints.
 - b) Find the slope of each these segments. Show your work.
 - c) Write the equation for each of these segments. Show your work.
- 8) Be creative and original with the layout of your poster. Your name and class period should be on the back of the poster.

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Algebra 1 Slope Project Grading Rubric

CATEGORY	4 OUTSTANDING	3 GOOD	2 MEDIocre	1 POOR	0 NOT ACCEPTABLE	TOTALS
Step 1 Graph	Graph is 90% - 100% correct, trimmed, and mounted on poster (10 points)	Graph is 80% - 90% correct, trimmed, and mounted on poster (8 points)	Graph is 60% - 80% correct and mounted on poster (5 points)	Graph is 10% - 60% correct and mounted on poster (2 points)	Graph is less than 10% correct (0 points)	
Step 2 Highlight slopes	Four line segments are highlighted. The slopes are the correct slopes in the correct quadrant: Negative slope - Q1 Undefined slope - Q2 Zero slope - Q3 Positive slope - Q4 (20 points)	Four line segments are highlighted. The slopes are the correct slopes but 2 slopes are not in the correct quadrant. (15 points)	Four line segments are highlighted. The slopes are the correct slopes but none in the correct quadrant. (10 points)	One to three line segments are highlighted. (5 points)	The slopes are not highlighted. (0 points)	
Step 3 Paragraph	Slope and equation explanations are answered in complete sentences. Explanations are detailed, clear, and well thought-out. Demonstrates enhanced understanding. Used separate sheets of paper or written on poster. (30 points)	Slope and equation explanations are answered in complete sentences. Explanations are clear and well thought-out. Demonstrates an understanding of some topics. Used separate sheets of paper or written on poster. (25 points)	Slope and equation explanations are given. Explanations are a little difficult to understand. Demonstrates a minimal level of understanding. (15 points)	Slope OR equation explanations are given. Explanations are quite difficult to understand. Demonstrates an unacceptable level of understanding. (10 points)	Questions are unanswered, are unreadable, or not appropriate. Explanations are unreadable, not appropriate or not included. Demonstrates no understanding. (0 points)	
Step 4 Slope and equation of 4 segments	Coordinates of four segments listed. Correct slope identified for each segment. Correct equation for each segment. (30 points)	Coordinates of four segments listed. Correct slope identified for three segments. Correct equation for three segments. (25 points)	Coordinates of four segments listed. Correct slope identified for two segments. Correct equation for two segments. (15 points)	Coordinates of four segments listed. Correct slope identified for one segment. Correct equation for one segment. (10 points)	No coordinates, slopes, or equations of the four segments listed. (0 points)	
Step 5 Display	Project is presented in a neat, clear, organized fashion that is easy to understand. Layout is creative and original. Name and class period are on the back of the poster. (10 points)	Project is presented in a neat, organized fashion that is usually easy to understand. Layout is creative and original. Name and class period are on the back of the poster. (8 points)	Project is presented in an organized fashion but may be hard to read at times. Layout is creative. Name and class period are on the back of the poster. (5 points)	Project is presented in a sloppy, unorganized fashion. It is hard to know what information goes together. Layout is not creative or original. Name and class period are on the back of the poster. (2 points)	The required components are turned in but not presented in any fashion. (0 points)	
Extra	Exceptional creativity, originality (10 points)					
					GRADE:	