ASSIGNMENT

LINEAR ART

For this assignment, you will create an interesting piece of artwork using your knowledge of graphing linear relations.

Here are your criteria:

1. Your art piece is to be created using the Graph tool (along the top) (not the drawing tool along the left side) on Geometer's Sketchpad.
2. Your artwork may be in colour or black and white.
3. Your artwork must be submitted in <u>both electronic form and in print form</u>. In print form, it should fit on a standard letter-sized page (8.5" x 11").
    a. You may choose to Hide the axes (under Display menu) and/or Hide the grid (under the Graph menu) or you may choose to incorporate these into your work. You will make this decision based on the artistic impression you are trying to make. However, as you continue to refine your piece, you will probably find that you need to bring this information back into your work to help you create the equations you are looking for.
    b. Your final work should show no equations, points, or numerical values (such as you see to define your scale on the coordinate axes). However, you will need to record the relation equations and some of the characteristics of your relations in a separate document that must be submitted electronically along with your artwork.
4. You are free to ask for your teacher's guidance, provided that you have specific questions to ask.
5. Your work is your own. Everyone must hand in an original assignment. You are encouraged to collaborate with your classmates. An example might be asking a student to teach you how to

create a line that stops. However, collaboration does not mean copying, nor does it mean getting someone else to do work *for* you. If you have any doubt as to whether or not something you are planning to do might constitute academic dishonesty, please consult with your teacher.

6. You are encouraged to look at the website http://www.mathcats.com/crafts/stringart.html to see how straight lines may be sequenced to mimic a curve. However, you are *not* required to use any curve effects in your art. See #7.

7. You are encouraged to look at images of Sol LeWitt wall drawings to get a sense of the power that straight lines can be used to create remarkable art pieces.

8. You may also want to look at images of the current Jeopardy set to see how straight lines are used in designing this set.

9. The characteristics sheet and process page may be *neatly* handwritten or word-processed. If word processed, the font must be Times New Roman 12. The process page should be double spaced.

10. In your process page, you will reflect on the connections you made between the artwork and the mathematics and your thoughts and decisions that allowed you to create a harmonic blend of these two. This is where you can really demonstrate your thinking and reference the mathematical processes with which you engaged to create your art piece.

11. Following your process page, you may choose to include any attempts you made along the way that helped you decide to take your work in a different direction, especially if you refer to these in your process page. These may make the thinking process clearer to the reader.

12. You are required to include a bibliography citing any websites, articles, books, etc that you visited or read from which you took inspiration or ideas. As well, you should include the name of any student/teacher/aunt/brother in an acknowledgement page.

13. The due date of this assignment is November 18 at the start of class. If you need more time, you must negotiate this with your teacher.

14. Your absolute deadline is November 23. After this date, the assignment will no longer be accepted.

15. Your assignment is to be handed *in final form* in a plastic folder that does not require that you use staples or punch holes. This is the order of your pages. Please do not use dividers.
    a. Title page which will include your name, your teacher's name, the name of your art piece (if it has a name), and the date.
    b. The acknowledgements page (if applicable).
    c. The art piece
    d. Your process page
    e. Any attempts that will help you describe your process
    f. The completed characteristics table
    g. The bibliography
    h. The co-constructed rubric
    i. This assignment page

My Process

Linear Relations Characteristics

Answer questions 1 – 11, then complete the relation equation table. Add rows as necessary.

1. The scale I used for my horizontal axis was _____ per gridline.

2. The scale I used for my vertical axis was _____ per gridline.

3. The choice of grid I used was _____.

4. The values on my horizontal axis went from _____ to _____.

5. The values on my vertical axis went from _____ to _____.

6. A line in my artwork that passed through the point (2, 4) is _____ (or N/A).

7. The line in my artwork that has equation _____ has y-intercept _____.

8. The line in my artwork that has equation _____ has slope _____.

9. One thing that I learned about linear relations by doing this assignment that I didn't already know is

10. One thing that I understand better about linear relations because of this assignment is

11. One thing that I still don't understand or that I'd like to learn more about with respect to linear relations is

For each line in your artwork, list the relation equation that you used to create the line.