LINEAR FUNCTION ART PROJECT 100 POINTS DUE FRI. DEC. 11 (A-DAY)/ MON. DEC. 14 (B-DAY)

Purpose: To create a creative picture (or your initials) using linear functions.

Product Directions:

*Step 1:* On the next sheet, you will **graph and number** *at least* 15 lines to create your own picture following the guidelines below.

* + - You must have 15 lines or more.
    - You must have a minimum of 10 lines that are slanted (i.e. have positive or negative slopes).
    - In addition, you must have at least one vertical line and one horizontal line.

*Step 2:* Once finished with **graphing and** **numbering** the lines, you will write the slope, y-intercept, equation of the line, and the restrictions of the domain on each on the back of this page. *You may do more than 15 lines, but you only have to write this information for 15 of your lines.*

*Step 3:* Be sure every line is neat. Color your picture and create a background. There are creativity points involved. *Please do not color too dark to where you can no longer see the x and y axis!* Write your name below, and turn these two sheets in when finished.

Rubric:  **NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

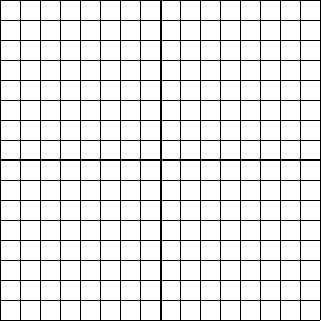
|  |  |  |  |
| --- | --- | --- | --- |
|  | **Description** | **Points Earned** | **Points Possible** |
| 10 slanted lines | These lines that have positive and negatives slopes are drawn and numbered on the graph. The slope and y-intercept are accurate. The equation of the line is written correctly according to the written slope and y-intercept. The domain restrictions are given and accurate for the line.  Each line is 5 points each. |  | 50 points |
| 1 horizontal line | There is at least one line that is horizontal (going right to left) drawn and numbered on the graph. The slope and y-intercept are accurate. The equation of the line is written correctly according to the written slope and y-intercept. The domain restrictions are given and accurate for the line.  This line is 5 points. |  | 5 points |
| 1 vertical line | There is at least one line that is vertical (going up and down) drawn and numbered on the graph. The slope and y-intercept are accurate. The equation of the line is written correctly according to the written slope and y-intercept. The range restrictions are given and accurate for the line.  This line is 5 points. |  | 5 points |
| 3 lines of your choice | The last three lines can be of any type. The slope and y-intercept are accurate. The equation of the line is written correctly according to the written slope and y-intercept. The domain or range restrictions are given and accurate for the line.  Each line is 5 points each. |  | 15 points |
| Neatness/Creativity | The lines drawn are neat, easy to read, and create a picture (or student initials.) (15 points) Student colored the picture, and added a background. (10 points) |  | 25 points |
| **Total** | **Unless there is an excused absence, student will lose 10 points for every class period they are late.** |  | 100 points |

**Comments:**

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Line**  **#** | ***m***  **Slope** | ***b***  **y-intercept** | ***y=mx+b***  **Equation** | **\_\_\_\_ ≤ *x* ≤ ­­­\_\_\_\_**  **Domain Restrictions\*** |
| **1** |  |  |  |  |
| **2** |  |  |  |  |
| **3** |  |  |  |  |
| **4** |  |  |  |  |
| **5** |  |  |  |  |
| **6** |  |  |  |  |
| **7** |  |  |  |  |
| **8** |  |  |  |  |
| **9** |  |  |  |  |
| **10** |  |  |  |  |
| **11** |  |  |  |  |
| **12** |  |  |  |  |
| **13** |  |  |  |  |
| **14** |  |  |  |  |
| **15** |  |  |  |  |

*\*Vertical lines will have a range restriction ( \_\_\_\_ ≤ y ≤ \_\_\_\_ ) instead of a domain restriction.*

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