**Stained Glass Window Project** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You must determine 12 equations of lines with the following criteria:

|  |  |
| --- | --- |
| Group A: 3 lines must have   * 0 slope * At least one line must be above the x-axis * At least one line must be below the x-axis * The equations may NOT equal ZERO and MUST be simplified | Group B: 3 lines must have:   * No/undefined slope * At least one line must be to the left of the y-axis * At least one line must be to the right of the y-axis * The equations may NOT equal ZERO and MUST be simplified |
| Group C: 3 lines must have:   * Positive, yet different slopes * Different y-intercepts, but one must go through the origin * Slopes can not all be whole numbers | Group D: 3 lines must have:   * Negative, yet different slopes * Different y-intercepts, but one must go through the origin * Slopes can not all be integers |

Write each of the equations on the lines below. Identify the slope and y-intercept (write as a coordinate point) for each equation. Then graph these equations on the coordinate plane provided and follow instructions on paper.

Group A

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_

Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_

Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_

Group B

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_

Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_

Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_

Group C

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_

Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_

Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_

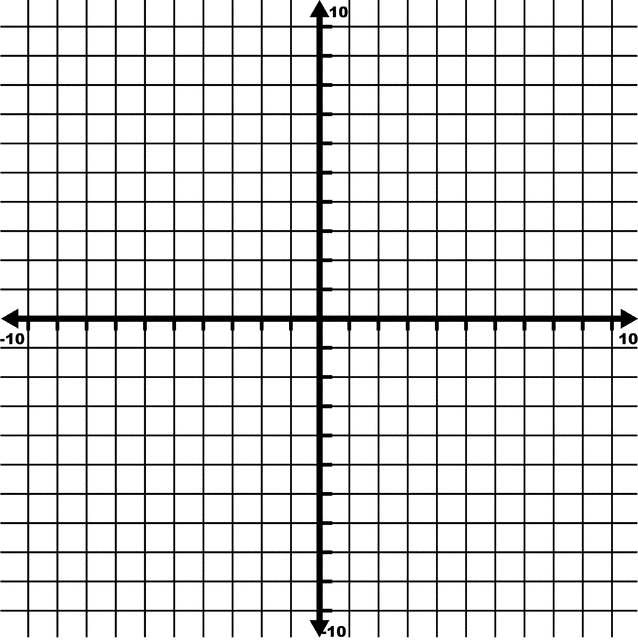
Group D

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_

Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_ Slope = \_\_\_\_\_\_\_\_\_\_

Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_ Y-intercept = \_\_\_\_\_\_

**Stained Glass Window Project** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

On the coordinate plane below, graph the linear equations you created. Use the slope and y-intercept you listed for each equation to graph it. Write the equation neatly and legibly on each line that you graph. When you are finished graphing the equations, use a dark-colored marker and a straight edge to trace over the lines, then color each section to create your stained glass window.

**Stained Glass Window Project Rubric** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| Objective | Rocked it | Most of the Time | Needs development |
| Group A   * Equations are written in the correct form (and simplified) * Equations meet criteria * Slope is correctly identified * Y-intercept is correctly identified as a coordinate pair | 4 | 3 2 | 1 0 |
| Group B   * Equations are written in the correct form (and simplified) * Equations meet criteria * Slope is correctly identified * Y-intercept is correctly identified as a coordinate pair | 4 | 3 2 | 1 0 |
| Group C   * Equations are written in the correct form (and simplified) * Equations meet criteria * Slope is correctly identified * Y-intercept is correctly identified as a coordinate pair | 4 | 3 2 | 1 0 |
| Group D   * Equations are written in the correct form (and simplified) * Equations meet criteria * Slope is correctly identified * Y-intercept is correctly identified as a coordinate pair | 4 | 3 2 | 1 0 |
| Lines are graphed on coordinate plane accurately (at least 3 points on the line are identified) | 4 | 3 2 | 1 0 |
| Equations of lines are visible on the coordinate plane | 2 | 1 | 0 |
| Project is neat (evidence of a straight edge is used) and colored | 2 | 1 | 0 |
| Careless mistakes | 2 | 1 | 0 |

Total Points = \_\_\_\_\_\_ / 26 = \_\_\_\_\_\_\_\_%