Foundations & Pre-Calculus 10 Math Art Assignment

For this assignment, you will be creating a piece of artwork using linear lines. You will do the art piece on grid paper following all the requirements below. Then, you can add colour to bring it to life! Be creative and have fun with it :D

What you need to hand in:

There are two components to this assignment:

1. Your art work
2. Your calculations

Requirements for your art piece:

Your art piece needs...

- An x and y axis
- at least 2 vertical lines
- at least 2 horizontal lines
- at least one set of parallel lines
- at least one set of perpendicular lines
- at least one line with a positive slope
- at least one line with a negative slope
- each line must be labelled with its equation
- colour!

Finding the Equation of a Linear Line:

Label each line in your art piece with its equation. You can create the equation of a line using the formula $y = mx + b$, where m is the slope of the line and b is the y-intercept of the line.

MATH ART ASSIGNMENT CALCULATIONS SHEET

<u>Vertical lines</u> - Write the equation of each vertical line. What is the slope?

<u>Horizontal lines</u> - Write the equation of each horizontal line. What is the slope?

<u>Parallel lines</u> – Identify two lines in your piece that are parallel. Prove it by calculating their slopes.

<u>Perpendicular lines</u> – Identify two lines that are perpendicular. Prove it by calculating their slopes.

<u>Lines with a +/- slope</u> – Identify a line in your piece with a positive slope and a line in your piece with a negative slope. Calculate the slope of each line.

<u>Intercepts</u> – Identify a line that has both a vertical & horizontal intercept. Use the equation of the line to calculate the x & y intercept. Write each intercept as a point (x,y).