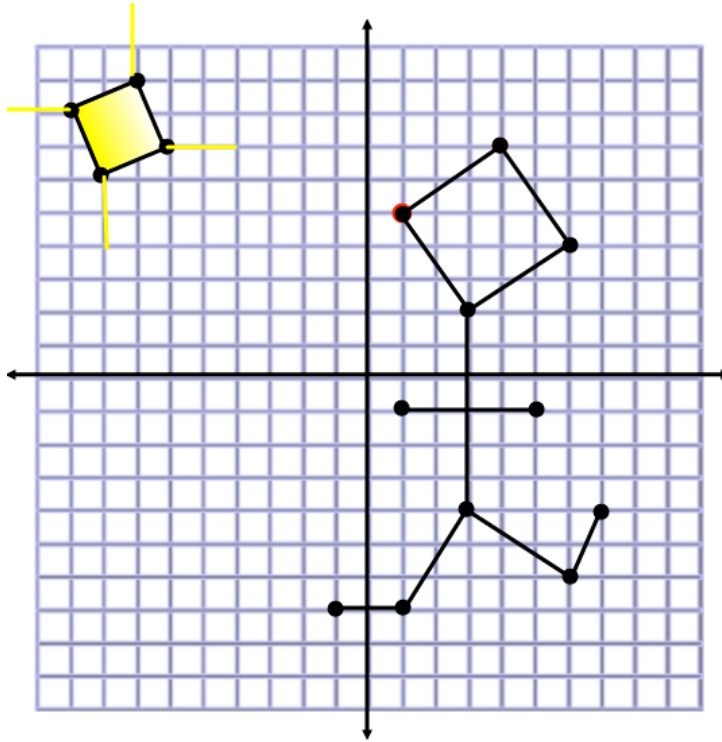# Unit 1 Assignment | Mathematical Art

In this assignment you will be creating a picture using mathematical equations. It needs to contain at least 6 different equations (i.e. linear functions, etc). The picture at the right is an example of what could be presented.

PART 1: <u>The design.</u> On your graph paper, create a picture/design using at least 6 equations. You could use

- Parallel Lines
- Perpendicular Lines
- Domain and Range that limits the lines
- Other lines that are just simply there to help with the picture.
- If you want to put in other types of functions feel free to try!

PART 2: <u>The picture</u>. I want you to use Desmos to generate and display your picture. Your goal is to make your picture on Desmos look exactly like the design you created on graph paper.

PART 3: <u>The information sheet</u>. You need to record the equations you used and write down the domain and range in set notation.

Extension Challenge: <u>Calculator</u>. Reproduce what you graphed on the graph paper and Desmos on your calculator!

Example: **_From the picture_**

Equation 1: $f(x) = \dfrac{2}{3}x + \dfrac{13}{3}$

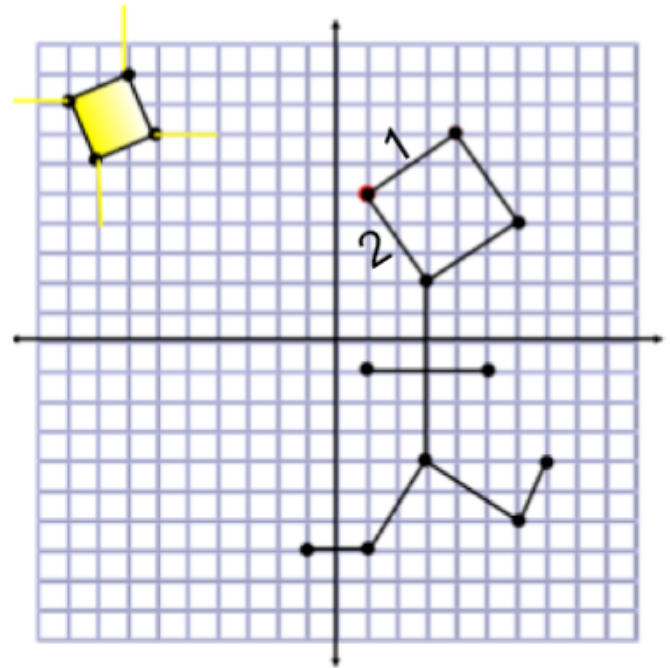**Domain:** $\{x \in R | 1 \le x \le 4\}$

Range: $\{y \in R | 5 \le y \le 7\}$
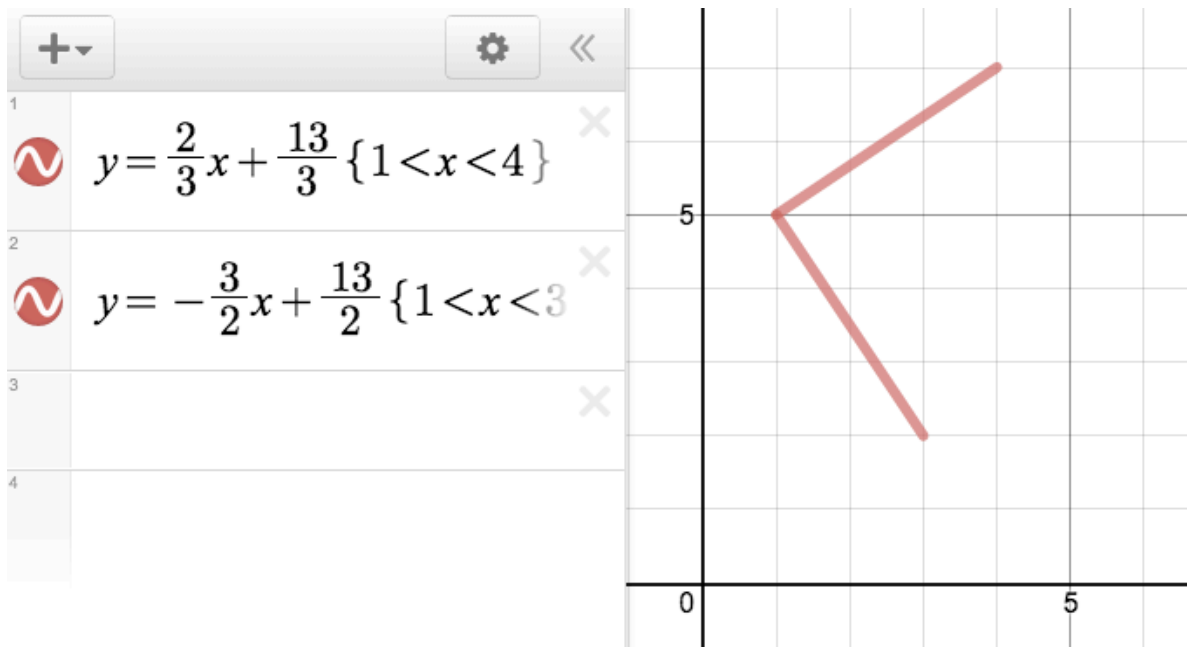
Equation 2: $f(x) = -\dfrac{3}{2}x + \dfrac{13}{2}$

Domain: $\{x \in R | 1 \le x \le 3\}$

Range: $\{y \in R | 2 \le y \le 5\}$

And so on...

Here is a screen shot from Desmos showing the partial progress using the first two equations.

Information Sheet

Equation 1:   **Domain:**

                                                   Range:

Equation 2:   **Domain:**

                                                   Range:

Equation 3:   **Domain:**

                                                   Range:

Equation 4:   **Domain:**

                                                   Range:

Equation 5:   **Domain:**

                                                   Range:

Equation 6:   **Domain:**

                                                   Range:

Equation   :   **Domain:**

                                                   Range:

Unit 1 Assignment | Mathematical Art

Equation :   Domain:

                                Range:

Equation :   Domain:

                                Range:

Equation :   Domain:

                                Range:

Equation :   Domain:

                                Range:

Equation :   Domain:

                                Range:

Equation :   Domain:

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Equation :   Domain:

                                Range: