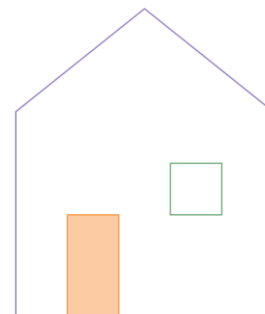


Creating Maths Art in Desmos (using polygons)

You can create lovely pictures in Desmos (www.desmos.com) by using polygons based on a table of coordinates.

These instructions show you how to create this picture. Work through them to make sure you understand how to use polygons in your own creation.



Drawing the house

1. Click the plus sign in the top left, choose table from the menu:
2. Add these values to your table:



x_1	y_1
0	0
0	4
2.5	6
5	4
5	0

3. On the next line enter: **polygon(x1,y1)**



Use (x_1 , y_1) as they are the headings of your table. It will automatically make the numbers a subscript.

4. Long hold the coloured circle on the left of the word polygon to format the shape e.g. change the colour, untick the fill.



5. Click the circle next to y_1 in the table to hide the individual points on the corners. (The circle will change to have no colour).

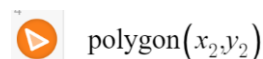
x_1	y_1
0	0
0	4

Drawing the door

- Repeat the above method for creating a polygon with these values:

x_2	y_2
1	0
1	2
2	2
2	0

- Enter: **polygon(x2,y2)**
 (This table has x2 and y2 as column headings).



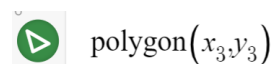
- Long hold the coloured circle to format the shape.

Drawing the window

- Repeat the above method for creating a polygon with these values.

x_3	y_3
3	2
3	3
4	3
4	2

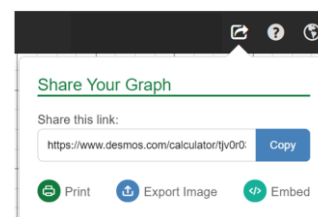
- Enter: **polygon(x3,y3)**
 (This table has x3 and y3 as column headings).



- Long hold the coloured circle to format the shape.

Saving and sharing your file

- Create an account or sign-in.
- Click Untitled Graph (top-left) to name and save your art.
- Click on the Share Graph icon (top-right) to get a link.



- To view a completed version of this online see: www.desmos.com/calculator/8bjwnan6h4
- Video instructions can be seen at: youtu.be/Jq83LlySOkU
- Desmos art can be seen at: www.desmos.com/art

MEI Desmos Maths Art Competition 2020 Rules

Maths Week England will run from 9th-14th November 2020. As part of Maths Week England MEI is running a Desmos Maths Art competition. For more details see: mei.org.uk/competitions.

Theme and judging criteria

The theme of the MEI Desmos Art Competition is “*The Environment*”.

Entries will be judged on the following criteria:

- Quality of the art.
- Use of Mathematics.
- Interpretation of the theme: “*The Environment*”.

Prizes

There will be two prizes in each of three age categories:

- School years 7-9.
- School years 10-11.
- School years 12-13.

Our kind friends at Desmos are providing the following prizes for each of the six winners:

- Desmos swag-bag including a T-shirt for the student
- Desmos T-shirt and socks for the teacher

Competition details:

- Entries are open to all schools/colleges in England.
- Students will be judged in one of three age categories: years 7-9, years 10-11 and years 12-13.
- The judging panel will consist of staff from MEI.
- By submitting an entry to the competition students are giving permission for the art to be published on the MEI website.
- MEI will contact schools/colleges prior to publishing art online to ask how the student should be credited. No student or school/college names will appear online without permission. Our full privacy notice can be viewed at: mei.org.uk/privacy-notice.
- Teachers are expected to ensure that each entry is the student’s own work.
- We cannot accept images that are **similar to copyrighted material**. For example, the art should not depict cartoon characters whose image is copyrighted.

How to enter:

- The list of entries from a school/college must be submitted from a **school/college email address**.
- Entries must be submitted by teachers listing each student’s name, year group, the name of the school/college and a link to the student’s art on the Desmos website.
- A maximum of one entry per student is permitted.
- Entries should be emailed to competitions@mei.org.uk with the subject line: *MEI Desmos Maths Art Competition*.
- Closing date for submissions is 4pm on **Friday 20th November 2020**.