

June 2nd, 2015

MPM2D

## Geogebra Picture Summative

It's time to show your artistic talent (and your knowledge of parabolas, transformations, and domains)!

Make a picture using from 5 to 10 parabolas. Once you have a picture created to your satisfaction, copy it **CONTROL+SHIFT+C** and paste it into a document. Also write out your equations. Add color and a title to your artwork. You may use lines, but they will not count towards your mark.

### HAND-IN

- Your picture inserted into a document **without** the grid and axes
- Your picture inserted into a document **with** the grid and axes
- Your equations, with descriptions of what it represents
- Colour
- Title

↪ For example, reflection  
[vertically stretch  
shift

### MARKING SCHEME

You will be marked using the following rubric:

	Level 1	Level 2	Level 3	Level 4
<b>Expectations</b>	<ul style="list-style-type: none"> <li>• 5 Parabolas</li> <li>• Drawing is basic</li> </ul>	<ul style="list-style-type: none"> <li>• 6-7 Parabolas</li> <li>• Drawing is complete, but attention to detail is lacking</li> </ul>	<ul style="list-style-type: none"> <li>• 8-9 Parabolas</li> <li>• Good use of transformations</li> <li>• All types of transformations used</li> </ul>	<ul style="list-style-type: none"> <li>• <u>10 Parabolas</u></li> <li>• transformations produce a meaningful and unique picture.</li> <li>• All types of transformations used</li> </ul>
	Assignment is missing three requirements	Assignment is missing two requirements	Assignment is missing one of the requirements	• Report includes all requirements.... <u>picture,</u> <u>equations,</u> <u>descriptions,</u> <u>colour, title</u>

### Part A: Accessing GeoGebra

1. Log into Halton Cloud.
2. Go to Geogebra.org
3. Click on "Start Creating"
4. Click on "Sign in" and click on google (This will lead you to link the account to your Halton account)
5. Click on "Algebra"

Artistic skill out of 10

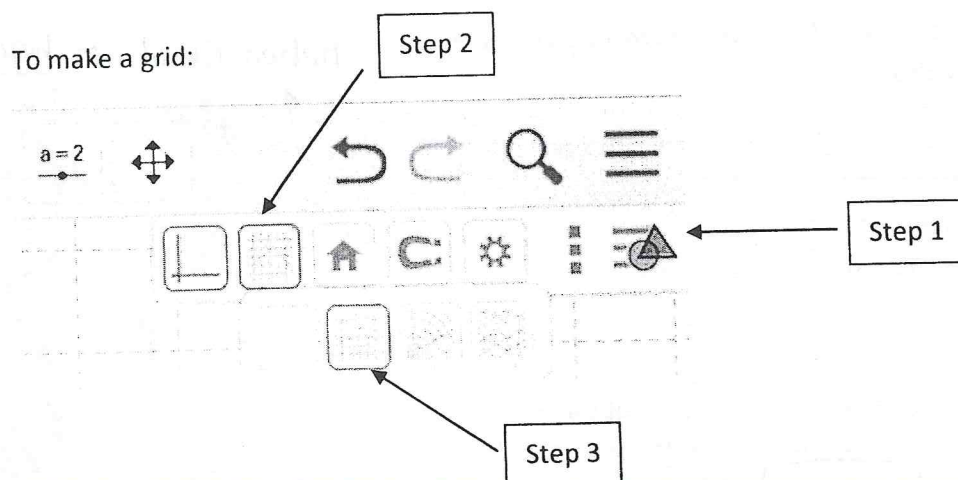
Technical skill // 40

Total 50

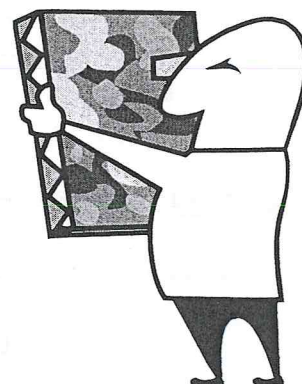
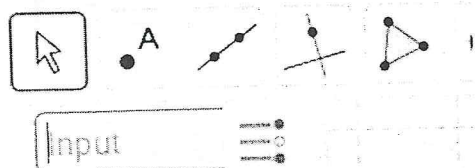
Halton Cloud or Word



To make a grid:



Enter equations in the input line.



### Exploring Functions

Try typing `function[x^2, -2, 2]` in the input bar

Note:  $x^2$  The ^ represents an exponent, so  $x^2 = x^2$

Try typing `function[x^2, -1, 1]` in the input bar

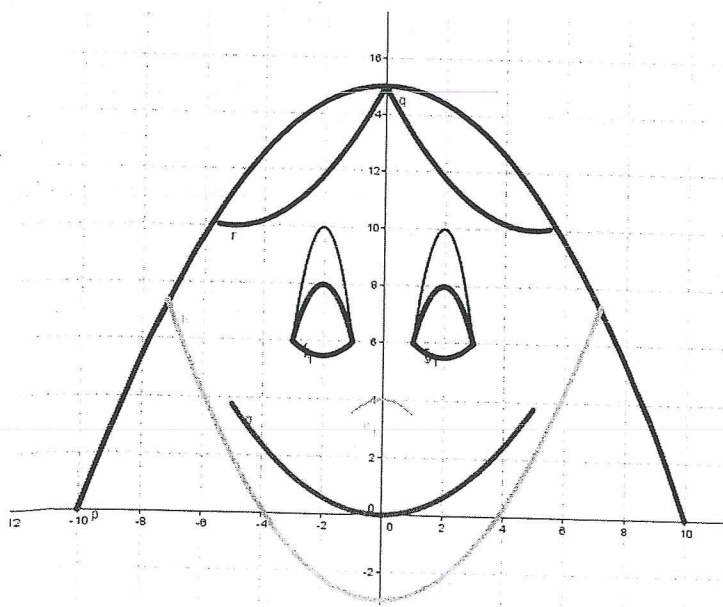
Try typing `function[x^2, -1, 2]` in the input bar

To graph  $y = 2(x - 1)^2 - 3$  between -3 and 3, type `function[2(x-1)^2-3, -3, 3]` in the input bar

- You will want to leave the axis on while you are doing your work. When you get your artwork completed, you will want to turn them off so that they will not be in the final picture. \*You will also paste into your document another picture **with** the axis\*

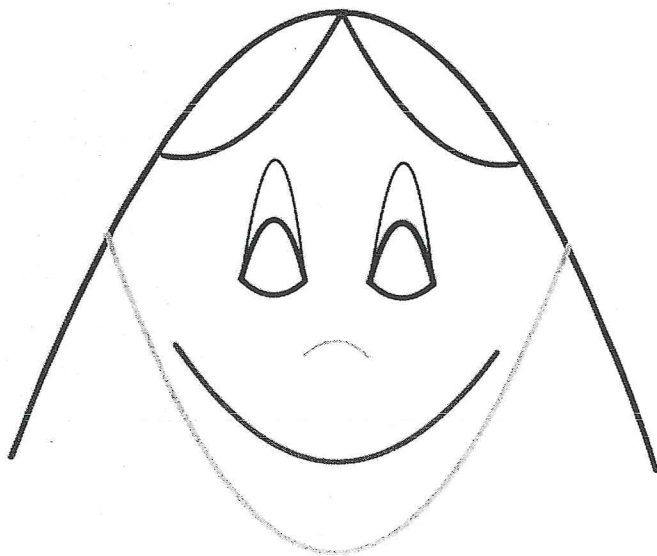
Example of a face with geogebra:

With grid and axes



To make your picture look better, you can right click your function and then turn label off.

Without grid and axes



$$y = -4(x - 2)^2 + 10 \quad \text{Right Eye}$$

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