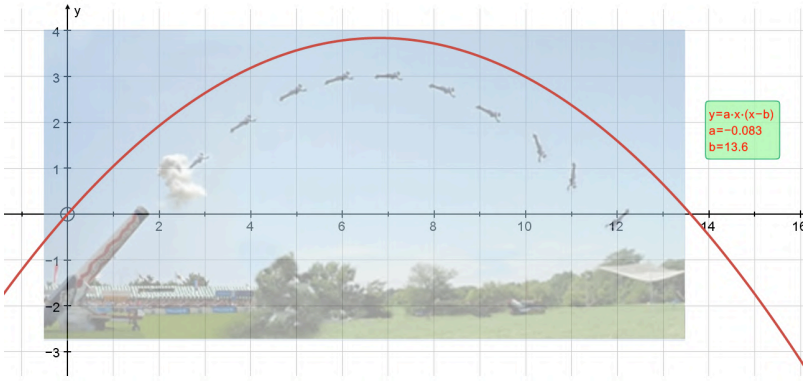
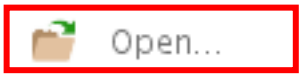
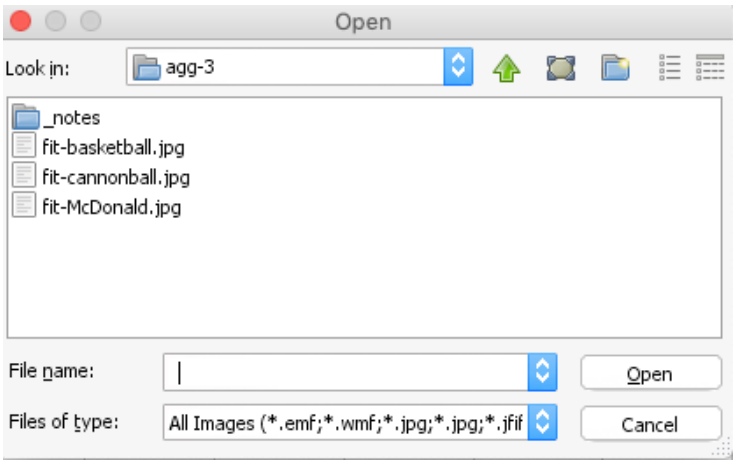
1. To fit a parabola to an image.



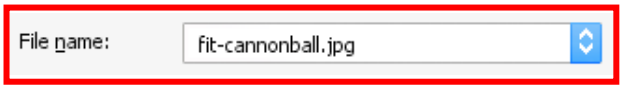
File and then **Open**



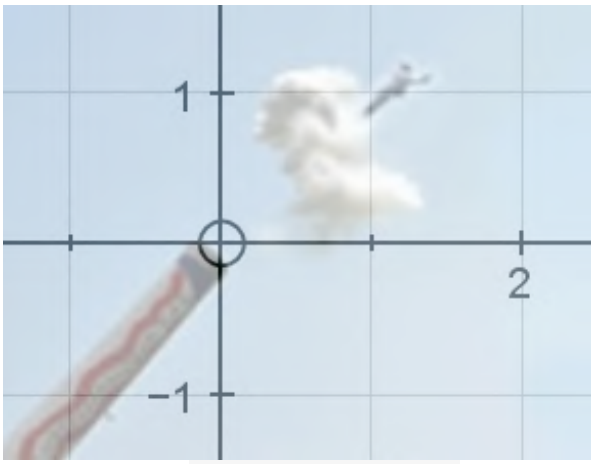
The Open file dialog box will open.



Open the image.



2. Use the **Select Tool** to put the Canon at the Origin.

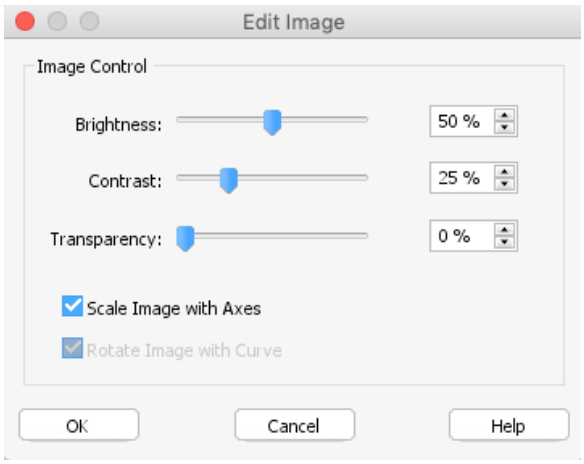


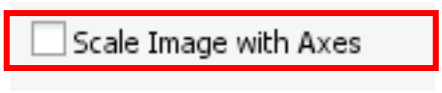
3. Use the **Select Tool** to double click the image,

Double click the image and you can **Edit Image**

Uncheck the **Scale Image with Axes**

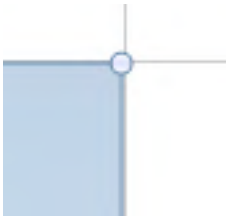
Adjust the Transparency to 50%



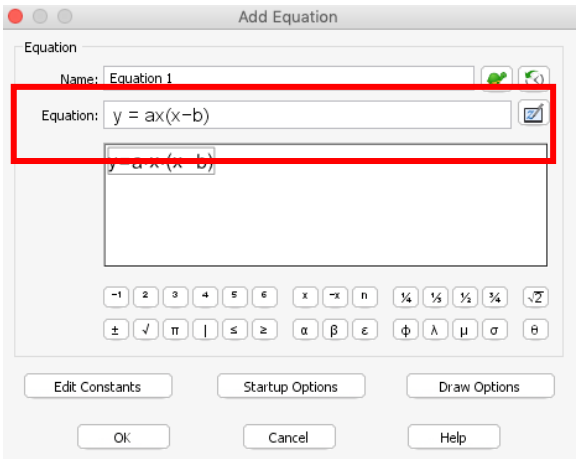


4. You can resize the image using the **Select Tool**

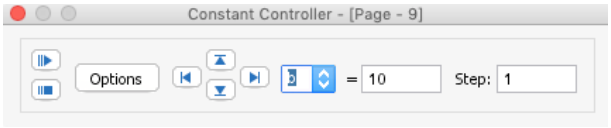
Use may need to use the **Select Tool** to reposition the Canon back at the Origin.

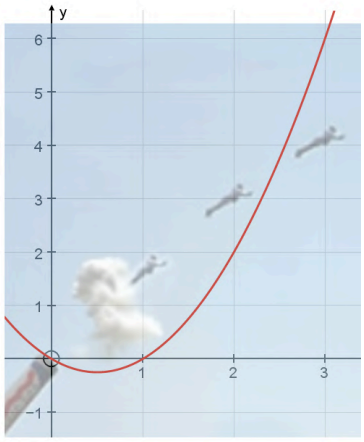


5. Enter Equation y = ax(x – b)

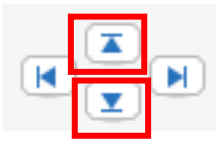


6. Use the **Constant Controller** to change the value of **a** and **b**

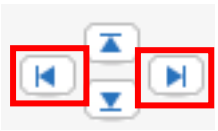


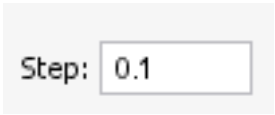


Use **Up** and **Down** arrows to increase and decrease he values

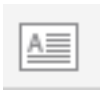


Left and **Right** arrows to change the **Step**



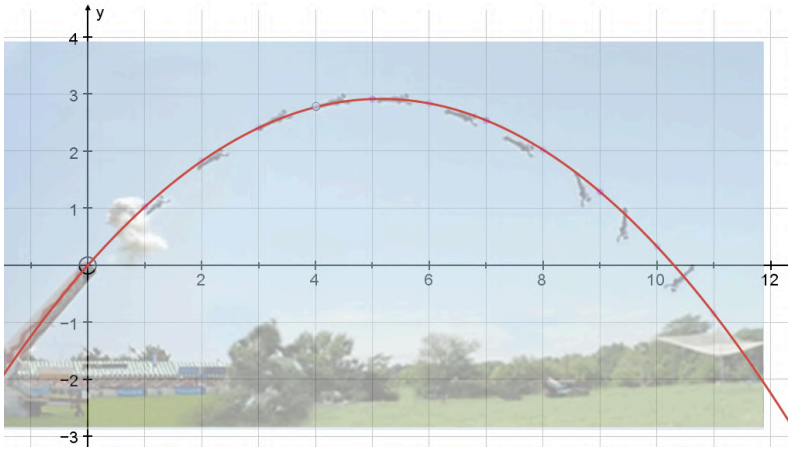


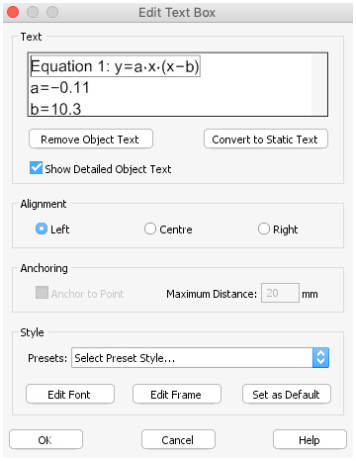
7. Use Text Box to display



The **Edit Text Box** dialog box will open,

Click ok to display the text box with Values of **a** and **b**

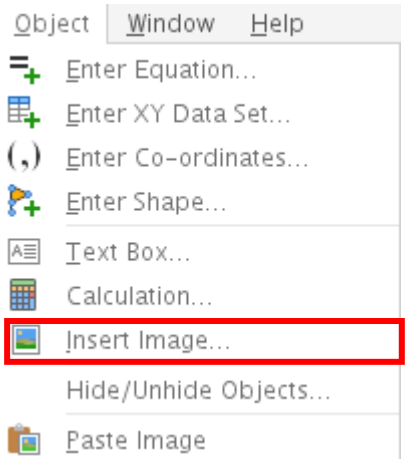




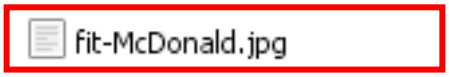
Autograph Webinar
How to: Fit a Parabola to an image Locus

1. New 2D Graph Page

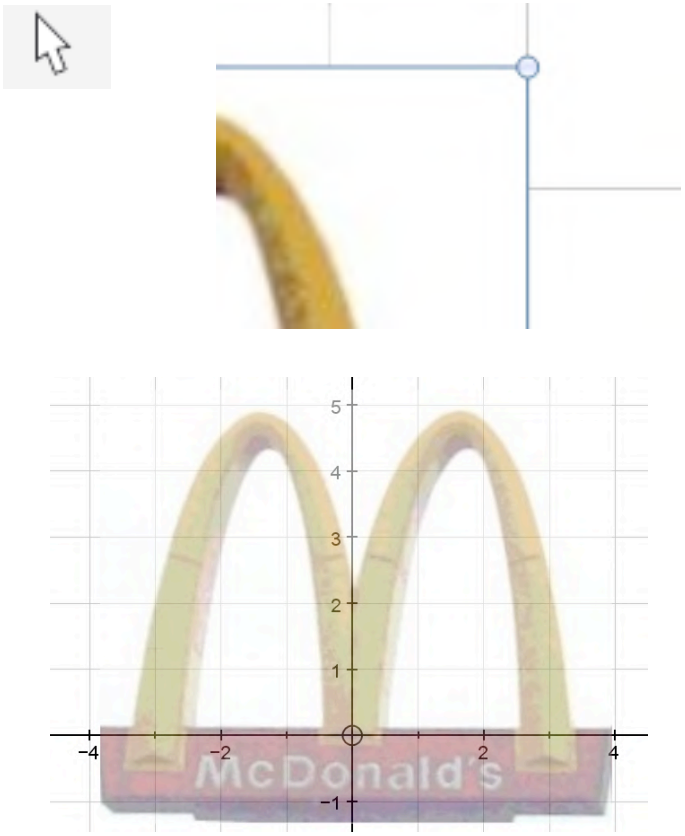
Use **Object** > **Insert Image**



Open the image:

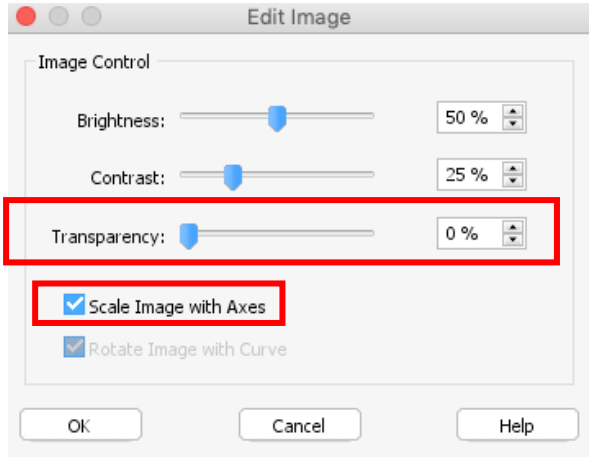


2. Using the **Select Tool**, resize the image.



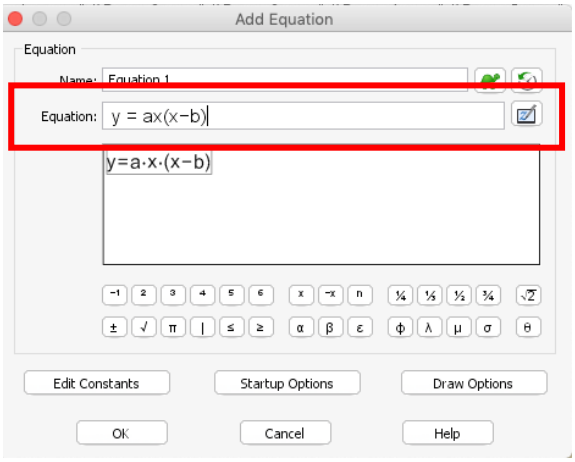
3. Double click the image to open the Edit Image dialog box.

Set the **Transparency** so you can see the axes through the image. (Try 50%)

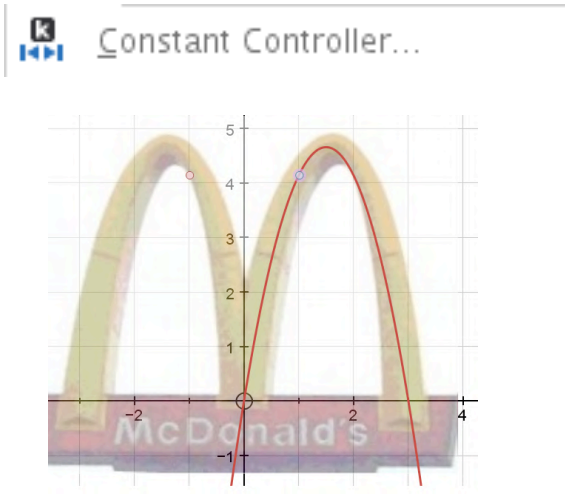


Uncheck the **Scale Image with Axes** option.

4. Enter Equation y = ax(x – b)



5. Use the **Constant Controller** adjust the values of **a** and **b** to fit the parabola.



6. Use **Point Mode** put a point on the parabola.

7. Use **Select Mode** reflect the point in the y-axis.

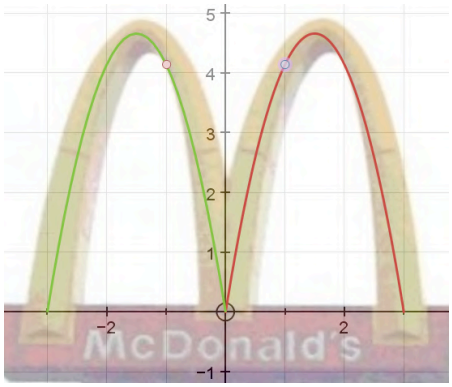
8. Use **Select Mode** to select both points.

Right Click and Create **Locus**

9. Use **Select Mode** to select both points.

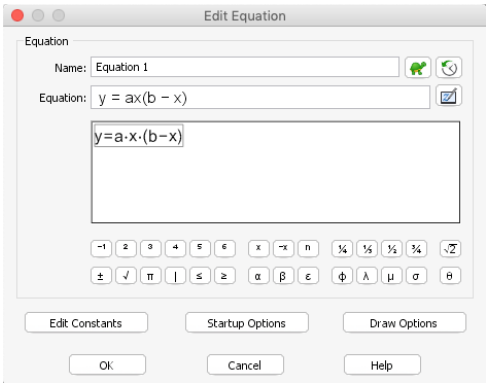
Right Click and Create **Locus**

Alter the snap setting to be 0.1

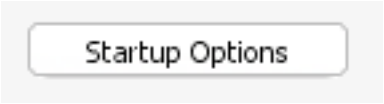


10. Use **Select Mode** to double click the parabola.

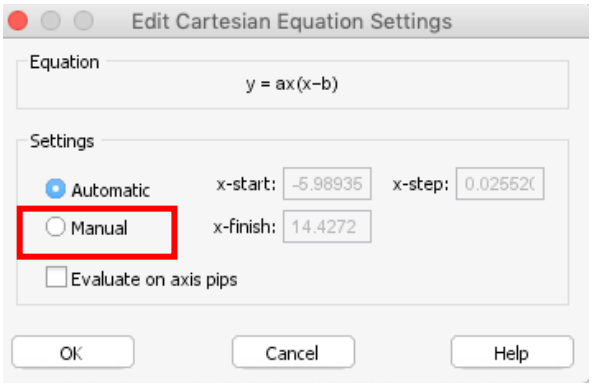
The **Edit Equation** dialog box will open.



11. Select **Startup Options**



The **Edit Cartesian Equation Settings** dialog box will open.

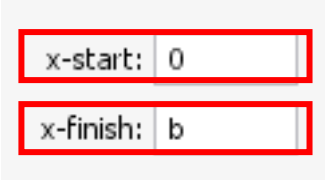


Change the **Settings** to **Manual**.

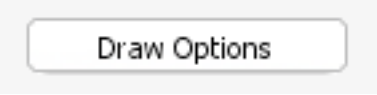
12. Enter an **x-Start** of 0

Enter an **x-finish** as **b**

Click **OK**

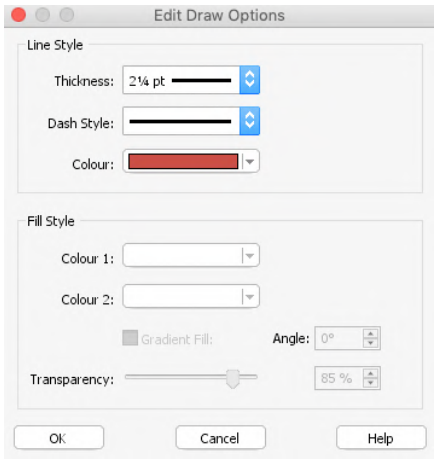


13. Select the **Draw Options**.



14. Select the **Draw Options**.

The **Edit Draw Options** dialog box will open.

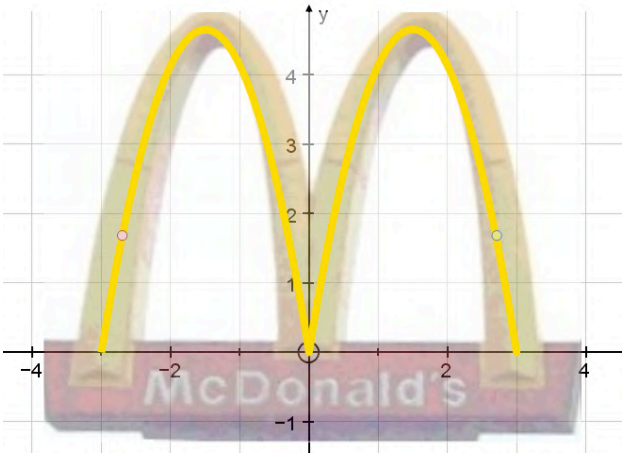


14. Chang the **Line Style** options:

Thickness: 6pt

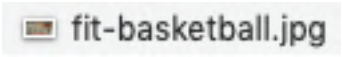
Colour:

15. Hopefully your graph should look like:



Autograph Webinar
Fit a Parabola: Task: 1

1. Load the Image.



Fit a Parabola to the image.

Adjust the **Draw Options** and add some **Text Box** labels.

Don't forget to change the **Transparency**

Hint: Equation y = ax(b – x)