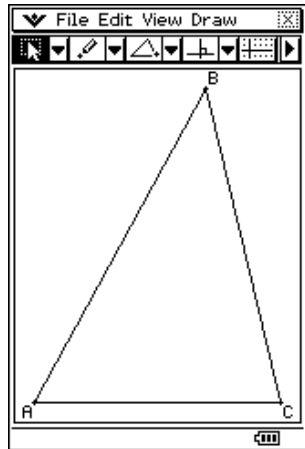


# Euler Line on the ClassPad 330.

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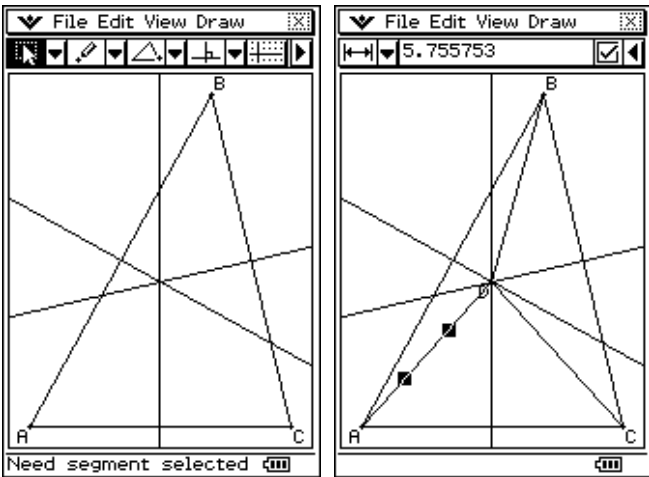
A Swiss (1707 – 1783), who spent most of his time in Russia, making important contributions to all branches of mathematics.

## Construct any triangle:

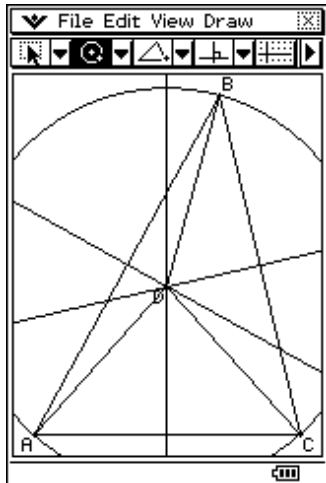


## Create the circumcentre:

Bisect each side of the triangle.

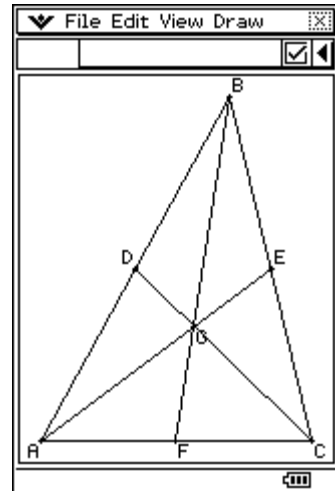
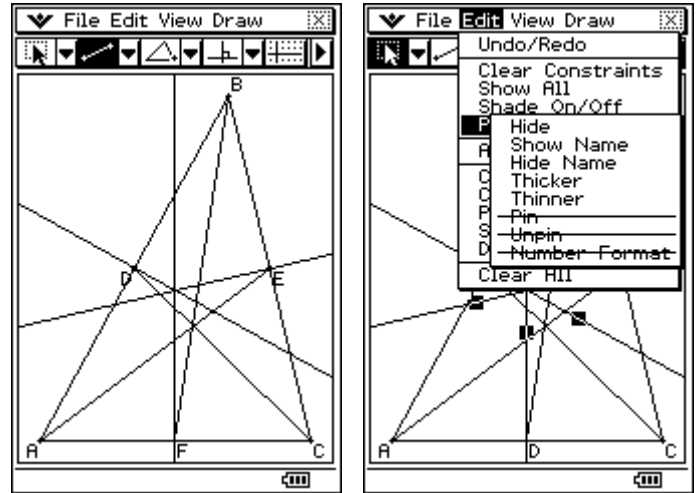


What do you notice about the lengths AD, BD and CD?



## Create the centroid:

Join the vertex to the midpoint of the opposite side

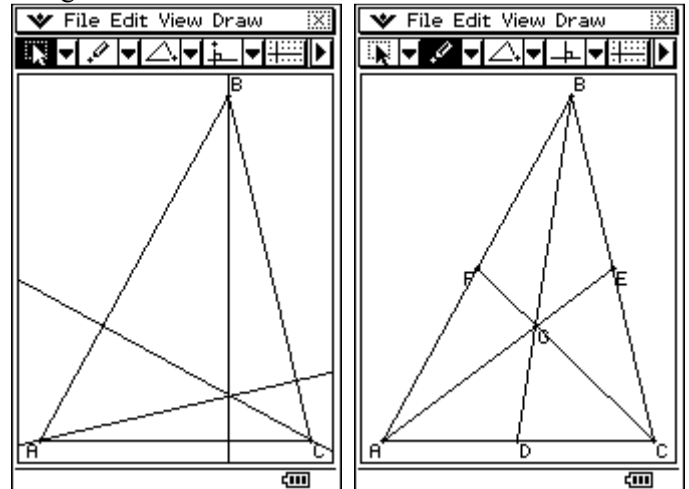


**N.B.** When completed you can 'hide' the construction lines.

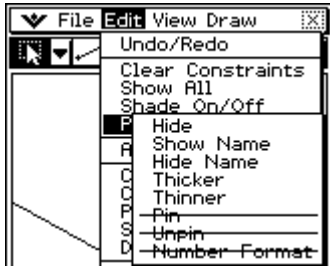
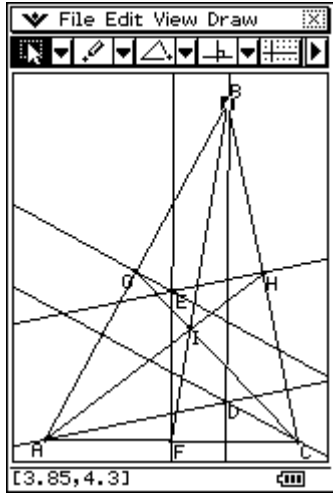
What do you notice about the areas of triangles  $\triangle AGF$ ,  $\triangle CGF$ ,  $\triangle CGE$ ,  $\triangle EGB$ ,  $\triangle BGD$ ,  $\triangle DGA$ ?

## Create the orthocenter:

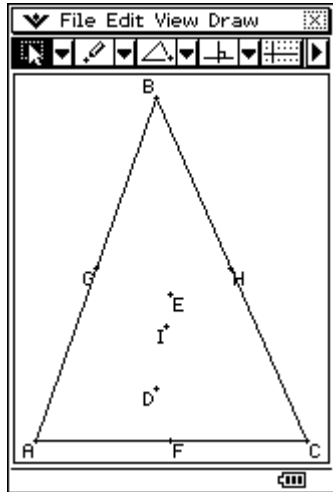
Construct the mediator to each of the three sides of the triangle.



**All three constructions together on one triangle:**  
 Complete the above three constructions on the same triangle. Where the circumcentre, centroid and orthocenter align.



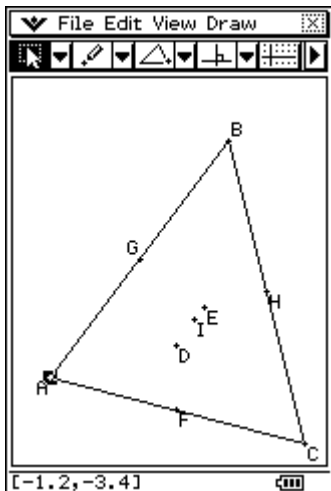
N.B. When completed you can 'hide' the construction lines.



**Investigate: What is the ratio of the distances between the points E, I and D, that is EI : ID?**

**Are the circumcentre, centroid and orthocenter all in alignment.**

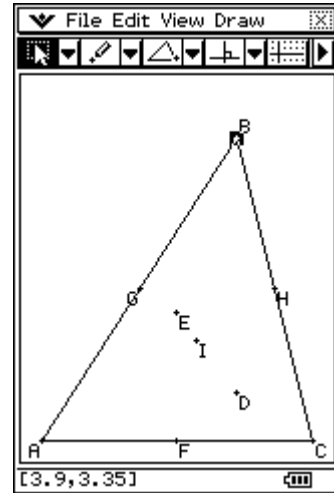
Move the point A about and seeing what happens to the points D, E and I.



**Investigate: Is the ratio EI : ID still the same as before?**

**Are the circumcentre, centroid and orthocenter all in alignment?**

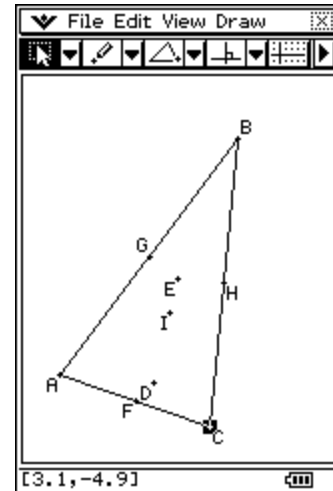
Move the point B about and seeing what happens to the points D, E and I.



**Investigate: Is the ratio EI : ID still the same as before?**

**Are the circumcentre, centroid and orthocenter all in alignment?**

Move the point C about and seeing what happens to the points D, E and I.



**Investigate: Is the ratio EI : ID still the same as before?**

**Try to align the three distinct points D, E and I so that they are the same point.**

**What type of triangle is this? How do you know?**

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