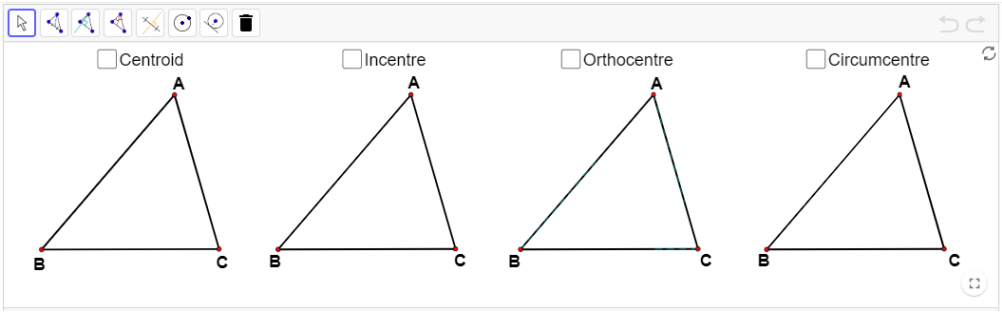
F.3 Mathematics: Centres in a Triangle

Name: _____ ( ) F.3____



https://ggbm.at/9982527

Centres in a Triangle

1. Check the boxes "Centoid", "Incentre", "Orthocentre" and "Circumcentre".

   Centroid (___) is the intersection of the three _____ of the triangle.

   Incentre (___) is the intersection of the three _____ of the triangle.

   Orthocentre (___) is the intersection of the three _____ of the triangle.

   Circumcentre (___) is the intersection of the three _____ of the triangle.

Properties of the Centres in a Triangle

2. Drag *A*, *B* and *C* and observe the positions of the centres.

   _____ and _____ are always inside the triangle.

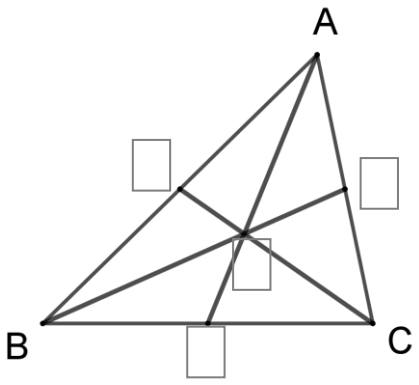
   _____ and _____ are lie outside the triangle when the triangle is an

   _____ triangle.

3. Check the box "Lengths and Ratios". Drag *A*, *B* and *C* and observe the ratios. We found that:

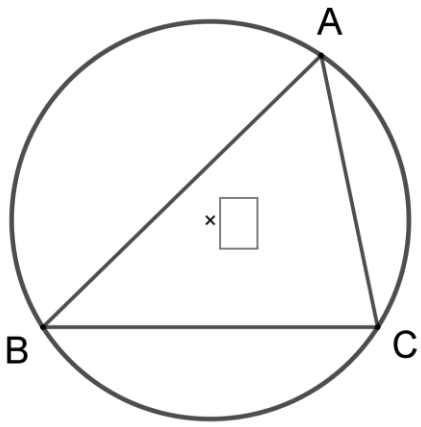
The _____ of a triangle would divide each of its _____ in the ratio _____ : _____,

i.e. _____ : _____ = _____ : _____ = _____ : _____ = _____ : _____ 。



4. Use the tool  . Use each of the centres of the triangle as the centre to draw a circle that passes through *A*, *B* and *C*. We found that:

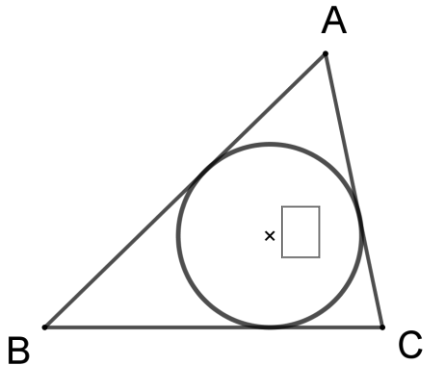
The _____ of a triangle is the centre of a circle that passes through *A*, *B* and *C*.



Prove your finding in the space below.

4. Use the tool  . Use each of the centres of the triangle as the centre to draw a circle that *touches* the three sides of the triangle. We found that:

The _____ of a triangle is the centre of a circle that passes through *A*, *B* and *C*.



Prove your finding in the space below.

Exercises

Try also the interactive exercises of the link.

https://goo.gl/GB5oPF