

Triangle Centres

Oct 11/2011

Recall: There is more than one centre for triangles.

The **centroid** is the intersection point of the **medians**.

The **orthocentre** is the intersection point of the **altitudes**.

The **circumcentre** is the intersection point of the **perpendicular bisectors**.

The **incentre** is the intersection point of the **angle bisectors**. \*\*\* will not be evaluated \*\*\*

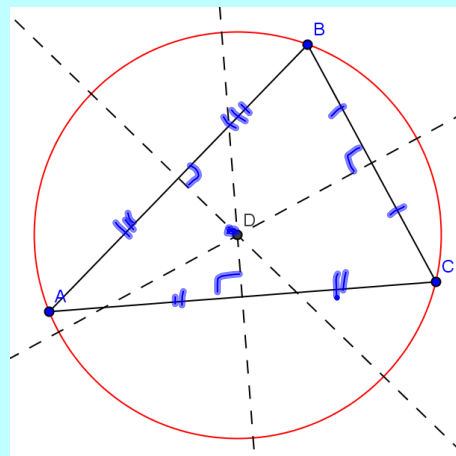
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The **centroid** is also known as the centre of mass of the triangle. You could balance the triangle at this point.

The **circumcentre** is the point that is equidistant from all 3 vertices of the triangle.

or

It the centre of the circle that passes through each vertex of the triangle.



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Given triangle FGH with vertices at  $F(-2,7)$ ,  $G(10,1)$ , and  $H(1,10)$ :

- a) List the steps required to determine the coordinates of the circumcentre, and then find it. (draw a sketch first!)
- b) List the steps required to determine the coordinates of the centroid. (draw a sketch... maybe a new one)
- c) List the steps required to determine the coordinates of the orthocentre.

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Assigned Work:

p.120-121 # 6, 8, 9, 10

Triangle ABC has vertices  $A(3, 4)$ ,  $B(-5, 2)$  and  $C(1, -4)$ .

Find the coordinates of the

- a) circumcentre. **Answer:  $(-2/5, 3/5)$**
- b) orthocentre. **Answer:  $(-1/5, 4/5)$**
- c) centre of mass (centroid). **Answer:  $(-1/3, 2/3)$**

Test will be Friday:

Review:

p124-125 #1, 2, 3, 6, 7, 8, 9, 10, 11, 13,  
15, 16, 18, 20a, 21, 22, 23

Feb 28-12:00 PM