

PROBLEM CORNER

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Problem 1

Consider a triangle ABC with point C lying on a circle $\mathcal{C}$ centered at A , with a radius equal to the length of side AB . Let D be the centroid (barycentre) of triangle ABC . Determine the locus of point D as point C moves along the circle $\mathcal{C}$, and provide the relationship between the locus and the geometric measures involved.

Problem 2

Consider a triangle ABC . Point C lies on the circle $\mathcal{C}$, which has its center at A and radius equal to the length of segment AB . Let E be the incenter of triangle ABC . Characterize the locus of point D as point C moves along the circle $\mathcal{C}$, providing an analytic description of the locus.