# Geometria 3

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**Problema 1 (IMO 1986, 2)** Given a point $P_0$ in the plane of the triangle $A_1A_2A_3$. Define $A_s = A_{s-3}$ for all $s \geq 4$. Construct a set of points $P_1, P_2, P_3, \ldots$ such that $P_{k+1}$ is the image of $P_k$ under a rotation center $A_{k+1}$ through an angle $120^o$ clockwise for $k = 0, 1, 2, \ldots$. Prove that if $P_{1986} = P_0$, then the triangle $A_1A_2A_3$ is equilateral.