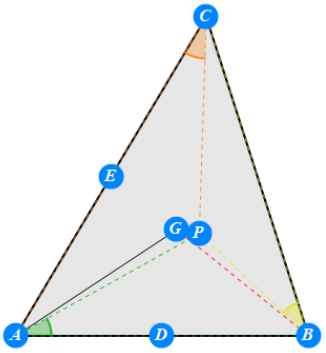

Example 26 : As shown in Figure 1, in $\triangle ABC$, G is the center of gravity, point P satisfies $\angle PAB=\angle PBC=\angle PCA$, if the four points A, B, P and G *share a circle, prove that:* C, E, G and P share a circle, A, D, The four points G and E share a circle.

Proof: $\dfrac{\dfrac{\dfrac{A+C}{2}-P}{\dfrac{A+C}{2}-\dfrac{A+B+C}{3}}}{\dfrac{C-P}{C-\dfrac{A+B+C}{3}}}=\dfrac{\dfrac{\dfrac{A+B+C}{3}-P}{\dfrac{A+B+C}{3}-B}}{\dfrac{C-P}{C-A}}+1$, stating

$\angle PEG=\angle PCG\Leftrightarrow\angle PGB=\angle PAB$,

$\dfrac{\dfrac{\dfrac{A+B+C}{3}-\dfrac{A+B}{2}}{\dfrac{A+B+C}{3}-A}}{\dfrac{\dfrac{A+C}{2}-\dfrac{A+B}{2}}{\dfrac{A+C}{2}-A}}+\dfrac{\dfrac{1}{2}}{\dfrac{\dfrac{A-P}{A-B}}{\dfrac{B-P}{B-C}}-\dfrac{\dfrac{\dfrac{A+B+C}{3}-P}{\dfrac{A+B+C}{3}-B}}{\dfrac{B-P}{B-C}}}=1$, explain

$\angle AED=\angle AGD\Leftrightarrow\angle PGB=\angle PBC$.