Special Maths Academy Problem Corner for January 2022

Instructions: Provide clearly written and well explained solutions. Submissions via our website: https://specialmaths.ng/problem-corner/

E and F are the feet of altitudes from B and C, respectively, in an acute angled triangle ABC. J is the circumcenter of ΔAEF and M is the midpoint of EF. Given that the circumcircle of ΔAJM bisects AB; determine with proof, the locus of point C given A and B are fixed.

Proposed by Mmesomachi.