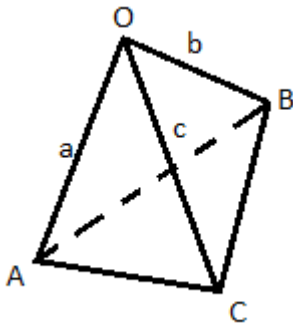


Answer on Question #81281 – Math – Geometry

Question

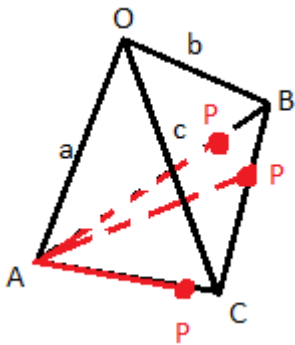
OABC is a tetrahedron and $OA=a$, $OB=b$ and $OC=c$. The points P and Q are such that $OA=AP$ and $2OB=BQ$. The point M is the midpoint of PQ. Find (i) AB, (ii) PQ, (iii) CQ, (iv) QM, (v) MB and (vi) OM in terms of a, b and c.

Solution



It is not said in the task where points P and Q are.

Point P can lie on AB or BC or AC:



Moreover if we draw a sphere with center at A and radius a, this sphere can intersect the tetrahedron at any one of various places any of which could be point P. The same we can say about point Q. If we draw a sphere with center at B and radius $2b$, sphere can intersect the tetrahedron at any one of various places any of which could be point Q. As there are lots of position for both P and Q then there will be many possible lines PQ. So, to solve this problem we need more detailed information on P and Q positions on the tetrahedron.

Answer provided by <https://www.AssignmentExpert.com>