

Geometry 1

October 2016

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1.37,1.38,1.39,1.47 Prove that the altitude, angle bisector and median of triangle ABC from B coincide if and only if $AB = BC$.

1.51 Prove that the locus of points equidistant from A and B is the perpendicular bisector of AB .

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1.63 Find the locus of points equidistant from two intersecting lines.

1.71 Prove that the angle bisectors of a triangle concur.

1.74 Prove that the perpendicular bisectors of the sides of a triangle concur.

1.159 Construct an isosceles triangle given the feet of its angle bisectors.

1.81 Construct a triangle given two sides and the median to the third side.

1.83 Prove that if one of the angles of a triangle is 120° , then the feet of its angle bisectors are the vertices of an isosceles triangle.

1.160 Squares $ADEB$ and $ACFG$ lie outside of triangle ABC , and M is the midpoint of BC . Prove that $DG = 2AM$

1.162 Find the angles of an isosceles triangle given that one of its angle bisectors is double the length of another one.