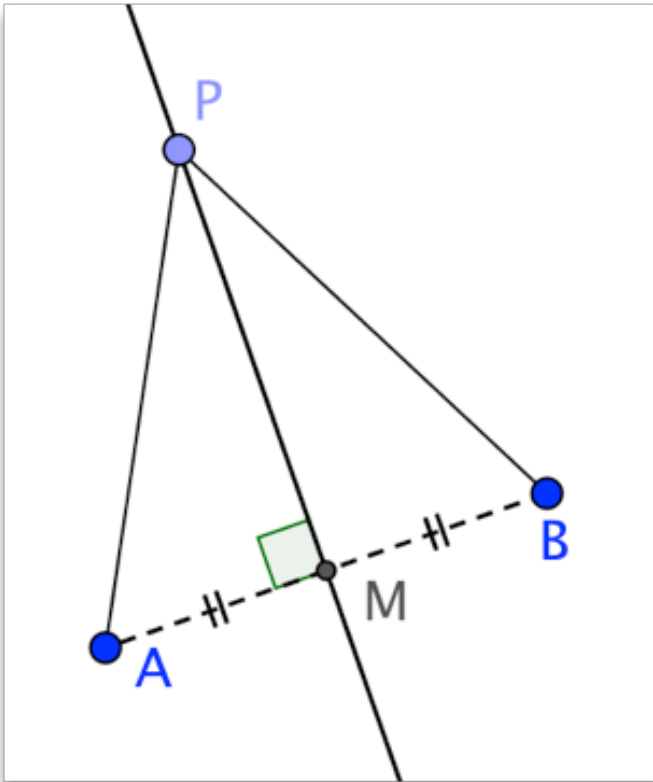


Perpendicular Bisector Theorem

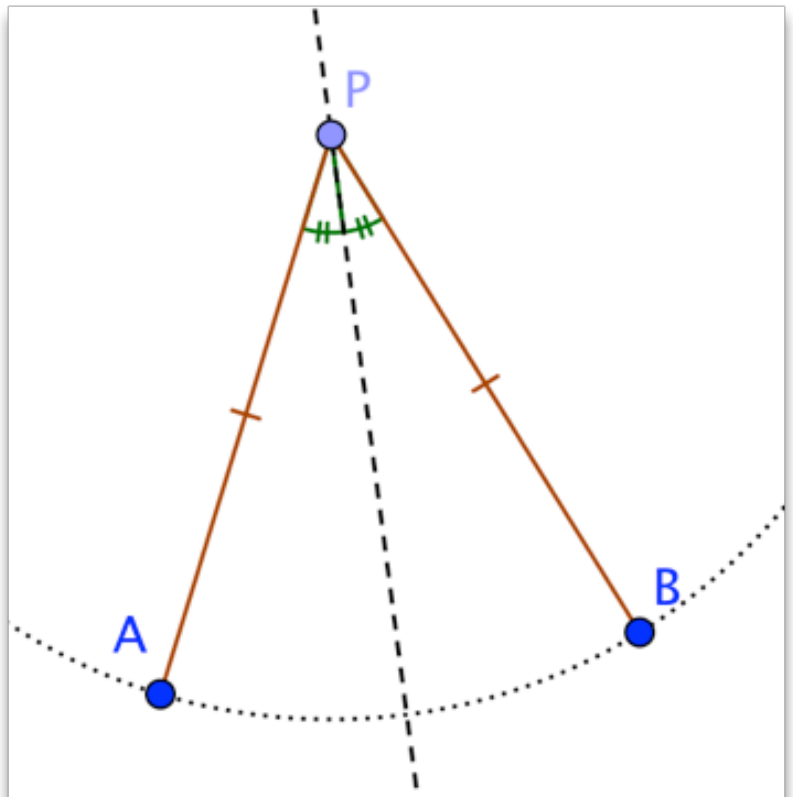


Given: $MA = MB$, $PM \perp AB$

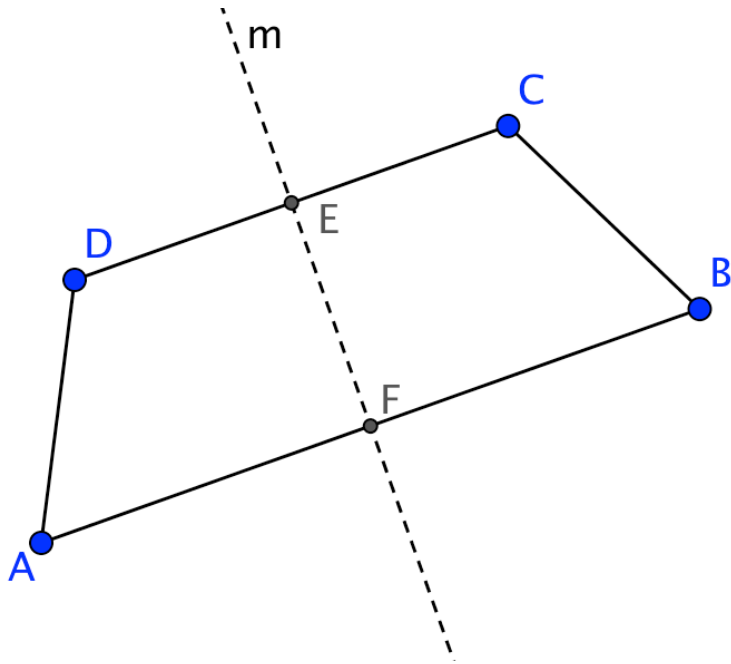
Prove: $PA = PB$

Given: $PA = PB$

Prove: P is on AB 's perpendicular bisector



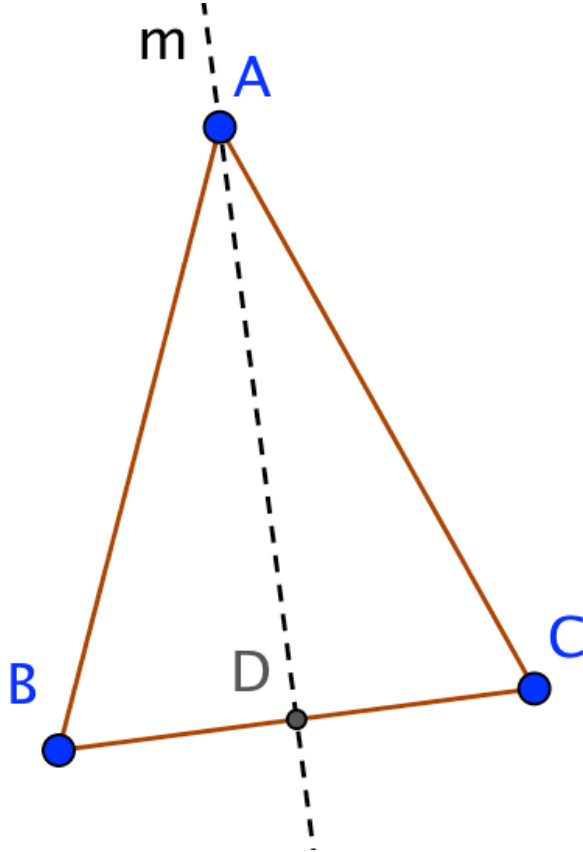
Properties of an Isosceles Trapezoid



Given: m is a line of symmetry for quadrilateral ABCD.

Prove: $AB \parallel DC$,
 $\angle A = \angle B$, $\angle C = \angle D$,
 $AD = BC$

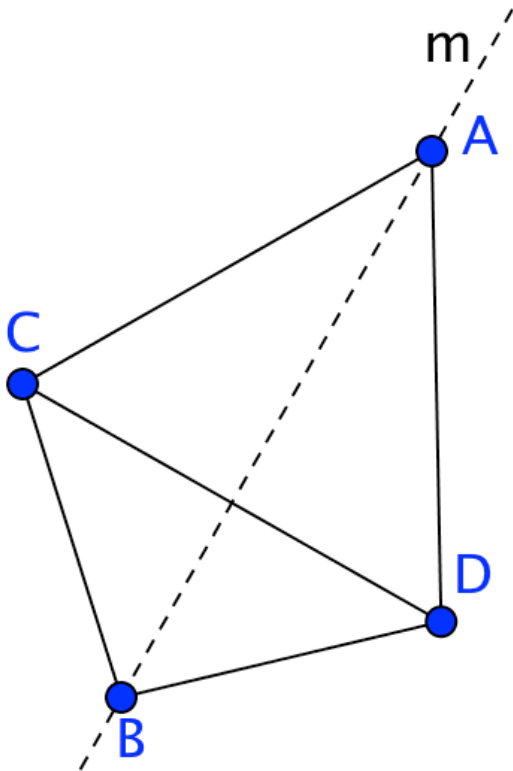
Properties of an Isosceles Triangle



Given: m is a line of symmetry for $\triangle ABC$.

Prove: $AB = AC$,
 $\angle B = \angle C$, m is an angle bisector, median, and altitude.

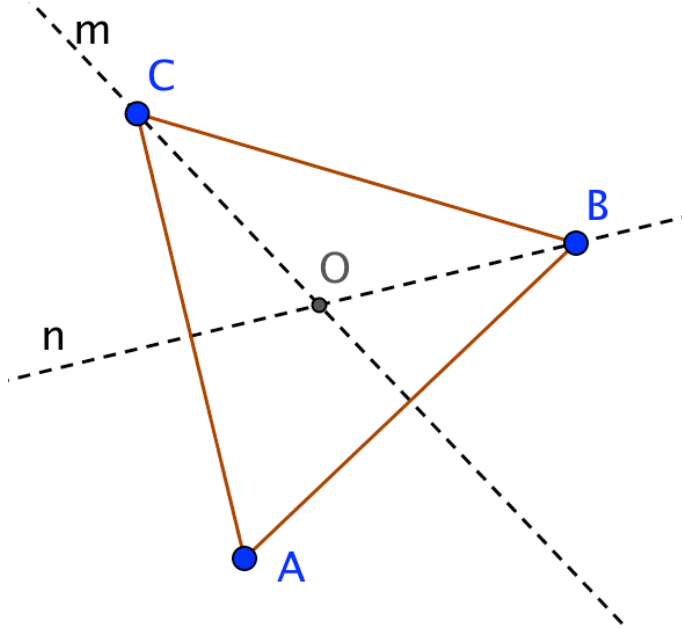
Properties of a Kite



Given: m is a line of symmetry for quadrilateral ABCD.

Prove: $AC = AD$, $BC = BD$,
 m bisects $\angle CAD$ and $\angle CBD$,
diagonal AB is a perpendicular bisector of diagonal CD.

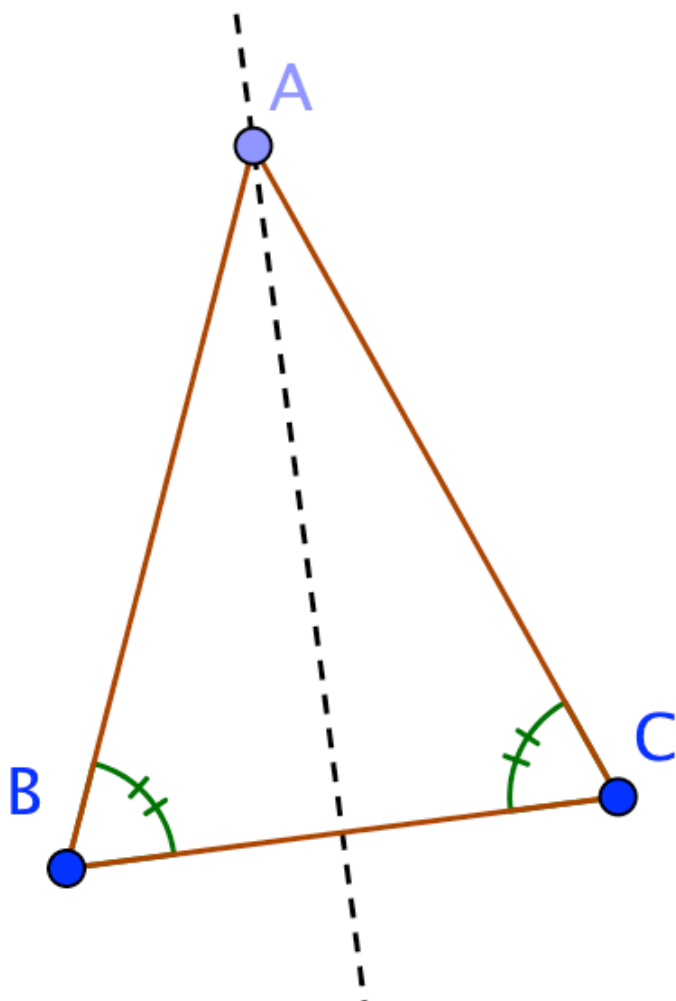
An equilateral triangle has 3-fold rotational symmetry.



Given: m and n , which intersect at O , are lines of symmetry for $\triangle ABC$.

Prove: $\triangle ABC$ has 3-fold rotational symmetry around O .

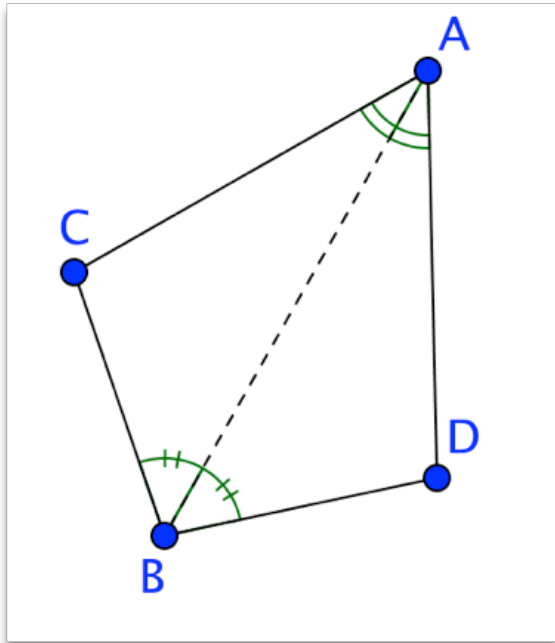
If a triangle has two equal angles, it is isosceles



Given: $\angle B = \angle C$

Prove: $\triangle ABC$ has a line of symmetry

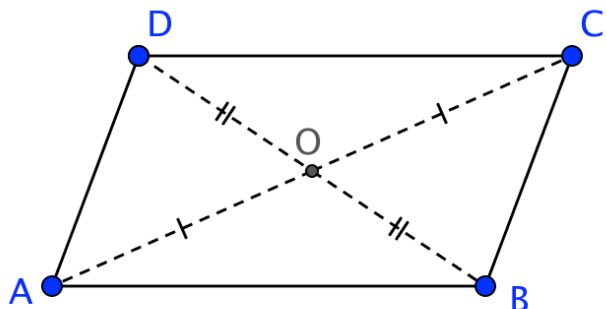
If a diagonal of a quadrilateral bisects a pair of opposite angles, the quadrilateral is a kite.



Given: $\angle CAB = \angle DAB$,
 $\angle CBA = \angle DBA$.

Prove: AB is a line of symmetry for quadrilateral ABCD.

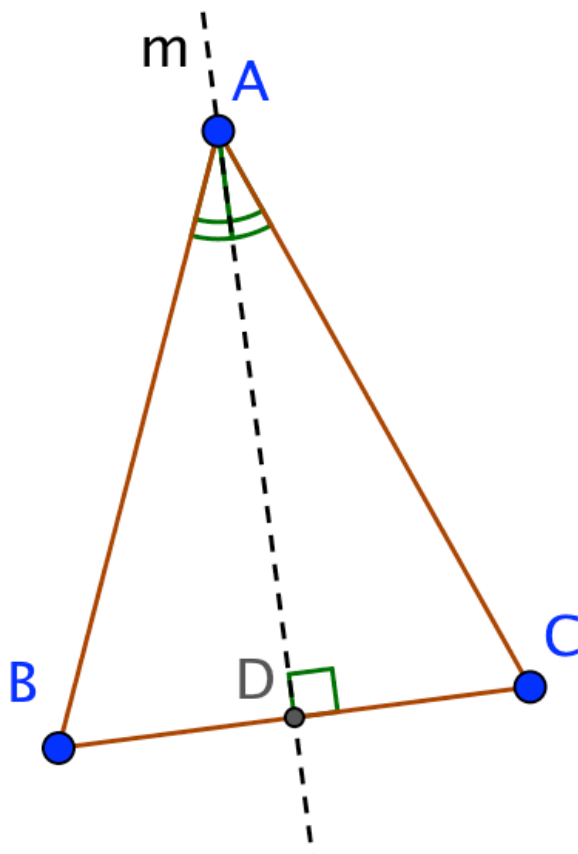
**If the diagonals of a quadrilateral bisect each other,
the quadrilateral is a parallelogram.**



Given: $AO = OC$ and $DO = OB$.

Prove: ABCD has 2-fold
rotational symmetry around O.

**If an angle bisector of a triangle is also an altitude,
the triangle is isosceles.**



Given: In $\triangle ABC$,
 $\angle BAD = \angle CAD$ and
 $AD \perp BC$.

Prove: Line AD is a line of
symmetry for $\triangle ABC$.