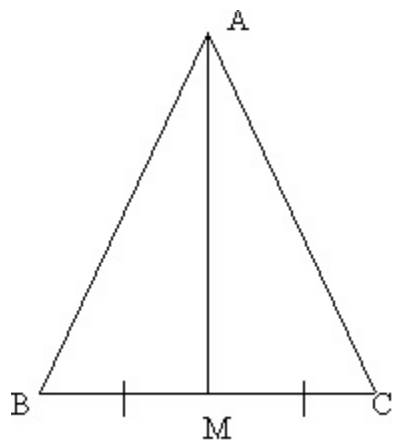


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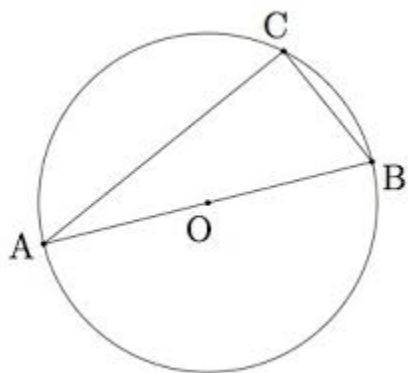
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Recall that the triangle $\triangle ABC$ is called isosceles if $AB = BC$.

Theorems:

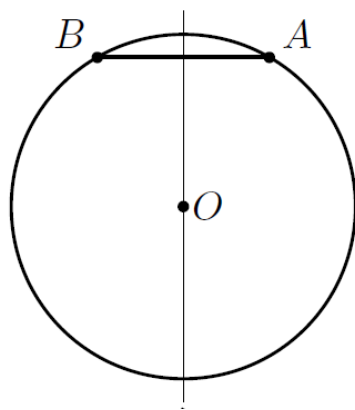
1. In an isosceles triangle, base angles are equal: $\angle A = \angle C$.
2. In an isosceles triangle, let M be the midpoint of the base AC. Then line BM is also the bisector of angle B and the altitude: BM is perpendicular to AC.



$\forall \angle ACB$, where AB is a diameter,

Theorem:

$$\angle ACB = 90^\circ$$

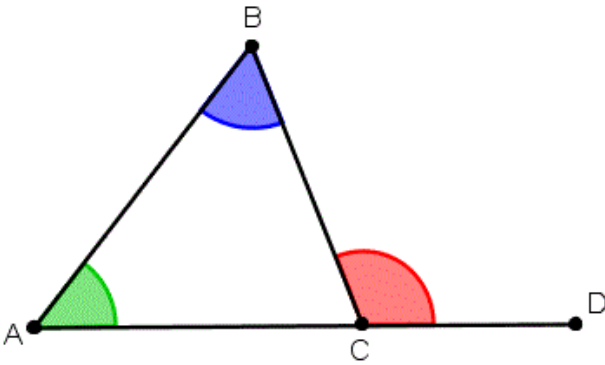


If two points A, B are on a circle, then the center of this circle lies on perpendicular bisector to AB (i.e., a line that goes through the midpoint of AB and is perpendicular to AB).

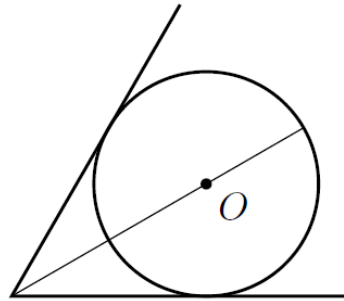
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1. Name the angles and prove that **RED** = **GREEN** + **BLUE**. You may or may not need additional constructions.



2. Given an angle AOB, construct the angle bisector (i.e., a ray OM such that $\angle AOM = \angle BOM$)



3. Construct an isosceles triangle, given a base $b=8$ and altitude $h=7$.
4. Construct a right triangle, given a hypotenuse $h=5$ and one of the legs $a=4$.
5. Construct a rectangle with one side $a=4$ and diagonal $d=8$.
6. Given length a , construct a regular hexagon with side $a=4$