Proposition A. Theorem.

If two sides of a triangle be equal, the angles opposite those sides must also be equal.

Fig. 1.

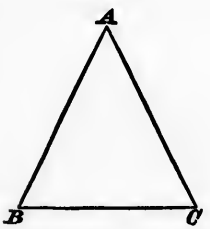
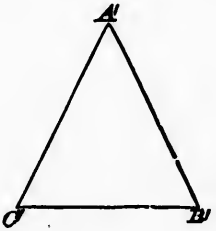


Fig. 2.



In the isosceles triangle ABC, let $AC=AB$. (Fig. 1.)

Then must $\angle ABC=\angle ACB$.

Imagine the $\triangle ABC$ to be taken up, turned round, and set down again in a reversed position as in Fig. 2, and designate the angular points A', B', C'.

Then in $\triangle$s ABC, $A'C'B'$,

$\because AB=A'C'$, and $AC=A'B'$, and $\angle BAC=\angle C'A'B'$,

$\therefore \angle ABC=\angle A'C'B'$. I. 4.

But $\angle A'C'B'=\angle ACB$;

$\therefore \angle ABC=\angle ACB$. Ax. 1.

Q.E.D.

Cor. Hence every equilateral triangle is also equiangular.

Note. When one side of a triangle is distinguished from the other sides by being called the *Base*, the angular point opposite to that side is called the *Vertex* of the triangle.