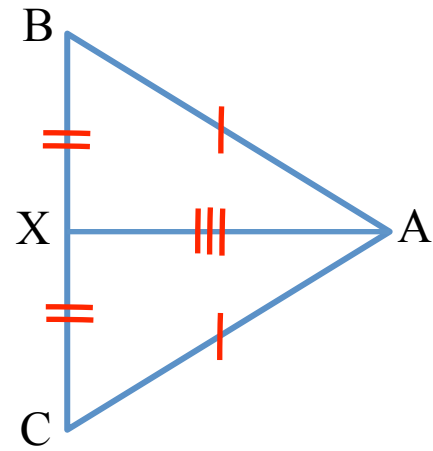


# Isosceles & Equilateral Triangles

Section 4-9

Given:  $\overline{BC}$  is the base of  
isosceles triangle  $\triangle BAC$   
 $X$  is the midpoint of  $\overline{BC}$

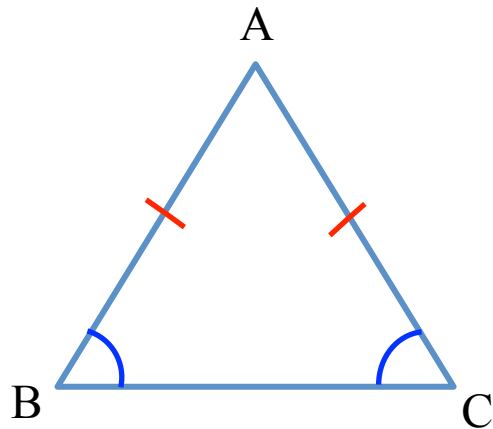
Prove:  $\angle B \cong \angle C$



# Isosceles Triangle Theorems

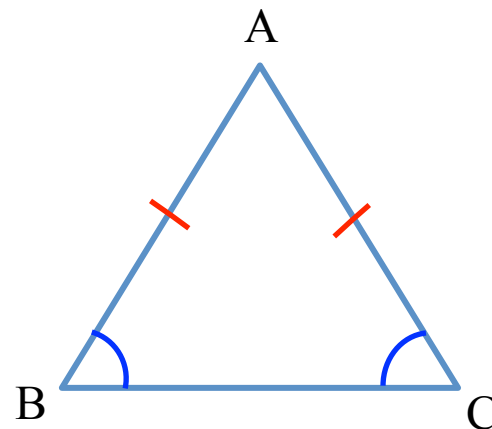
## Isosceles Triangle Theorem

If two **sides** of a triangle are congruent, then the **angles** opposite the sides are congruent.



## Converse of Isosceles Triangle Theorem

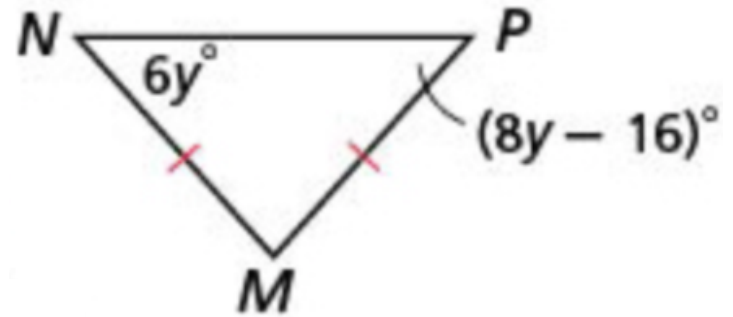
If two **angles** of a triangle are congruent, then the **sides** opposite the angles are congruent.



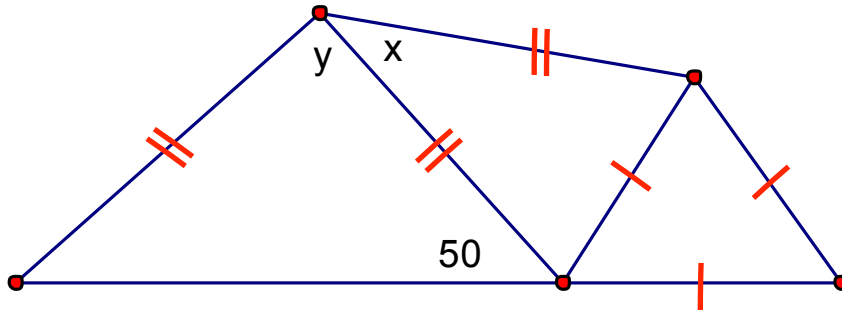
Find  $m\angle H$ .



Find  $m\angle N$ .

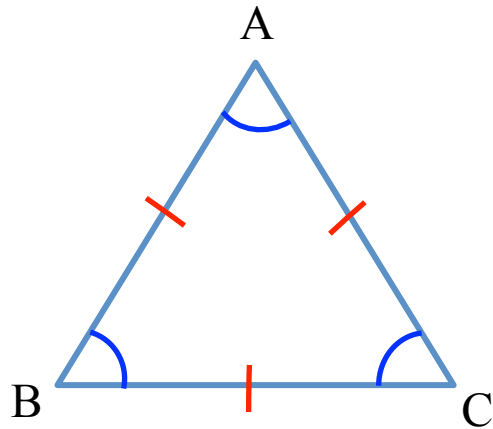


Find the value of  $x$  and  $y$ .

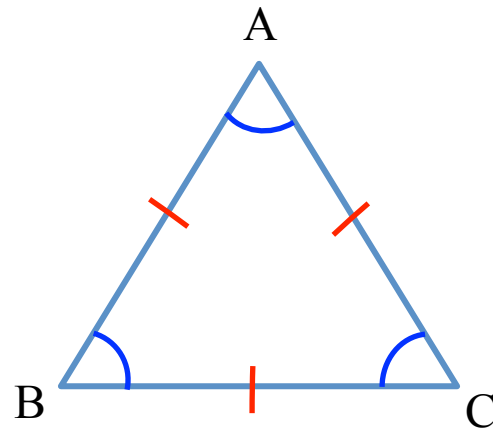


# Equilateral Triangle Corollaries

If a triangle is **equilateral**,  
then it is **equiangular**.



If a triangle is **equiangular**,  
then it is **equilateral**.



Given  $ABC$  is an equilateral triangle. Find the length of each side of the triangle.

