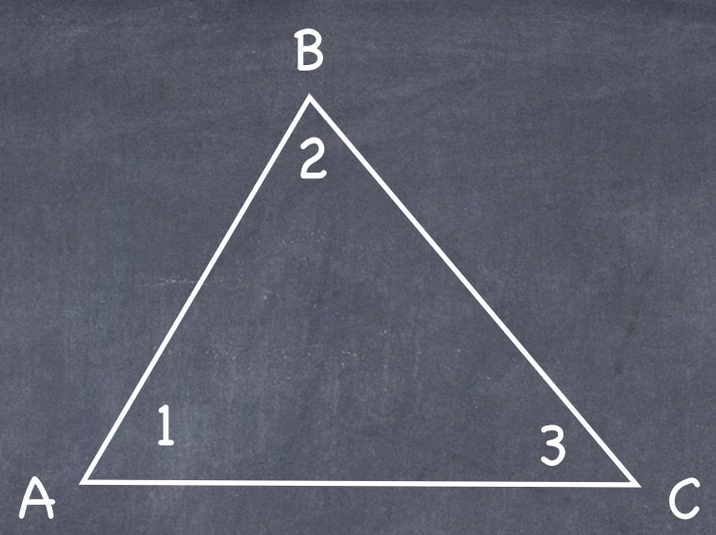
Triangles

Chapter 5

What is the sum of the angles inside a triangle?

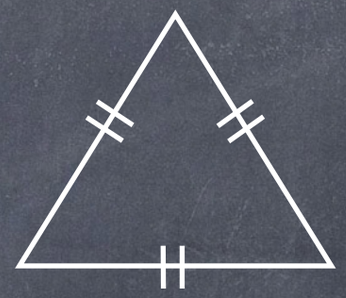
180°



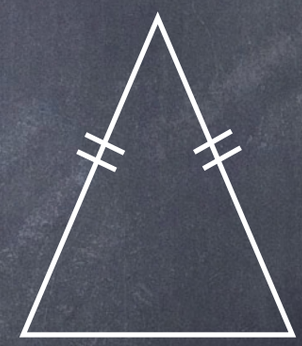
This can be proven in a number of different ways
but we can do that later this year

Classifying Triangles by Sides

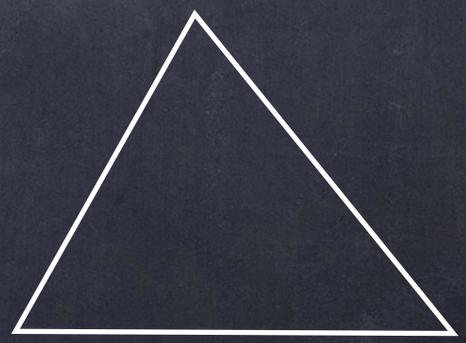
- Equilateral - Three congruent sides



- Isosceles - Two congruent sides

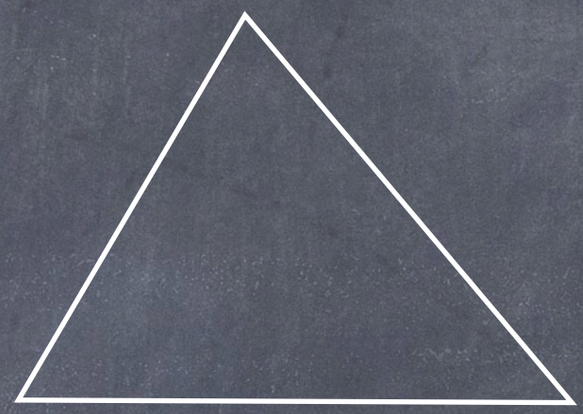


- Scalene - No congruent sides

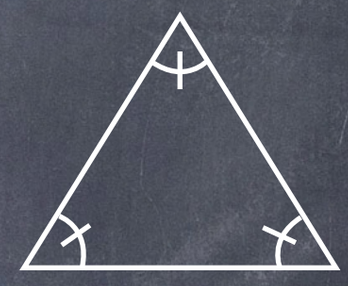


Classifying Triangles by Angles

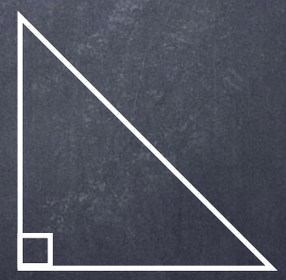
- Acute - All three angles < 90°



- Equiangular - All three angles = 60°



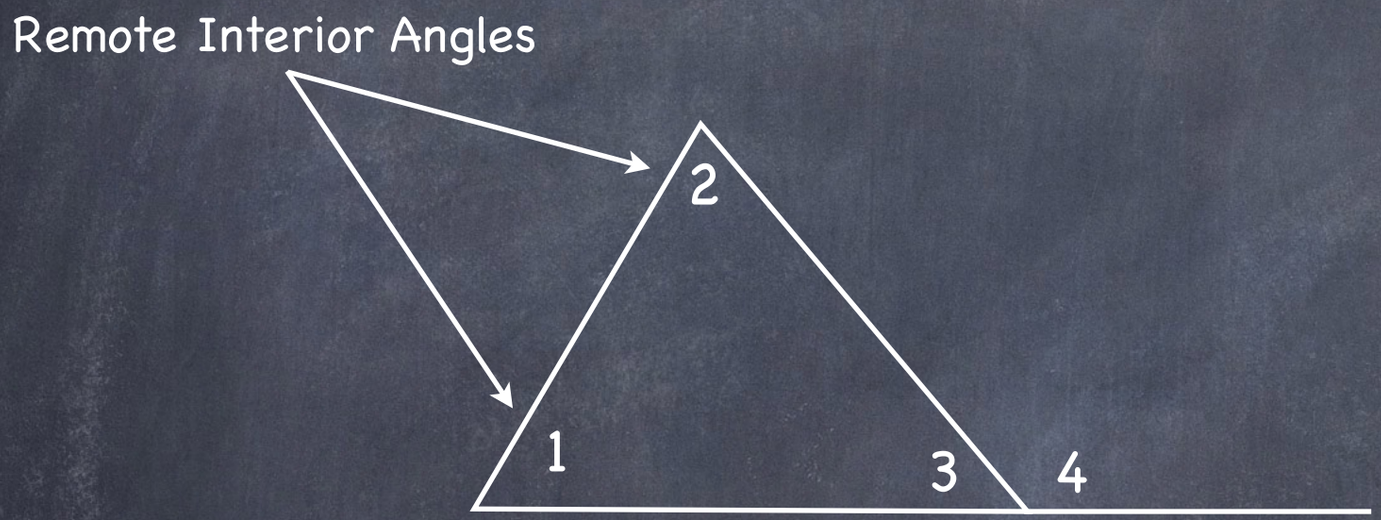
- Right - One right angle



- Obtuse - One obtuse angle

Exterior Angle Theorem

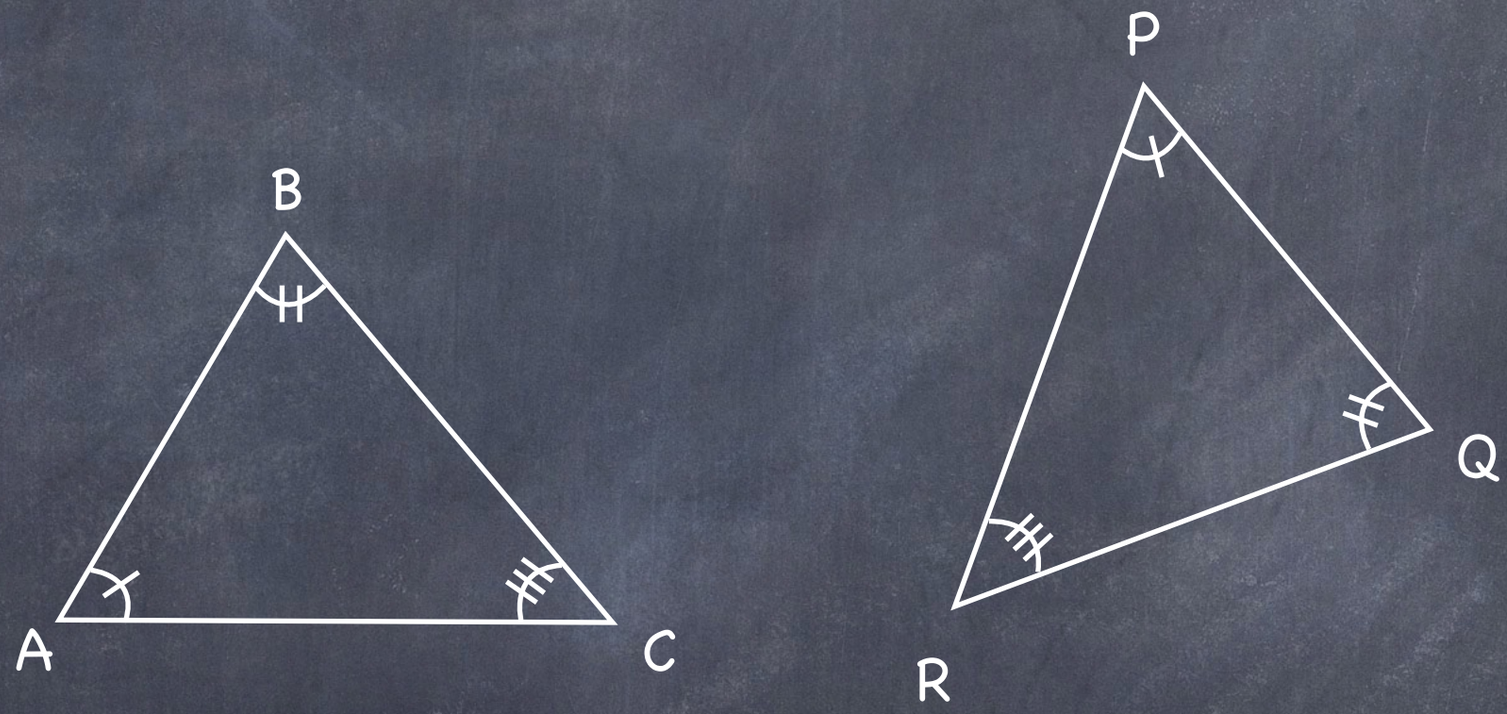
The measure of an exterior angle of a triangle is equal to the sum of the measures of its remote interior angles



$m\angle 4 = m\angle 1 + m\angle 2$

Third Angle Theorem

If two angles of one triangle are congruent to two angles of another triangle, then the third pair of angles are congruent.



If this is true then

$\angle A \cong \angle P$

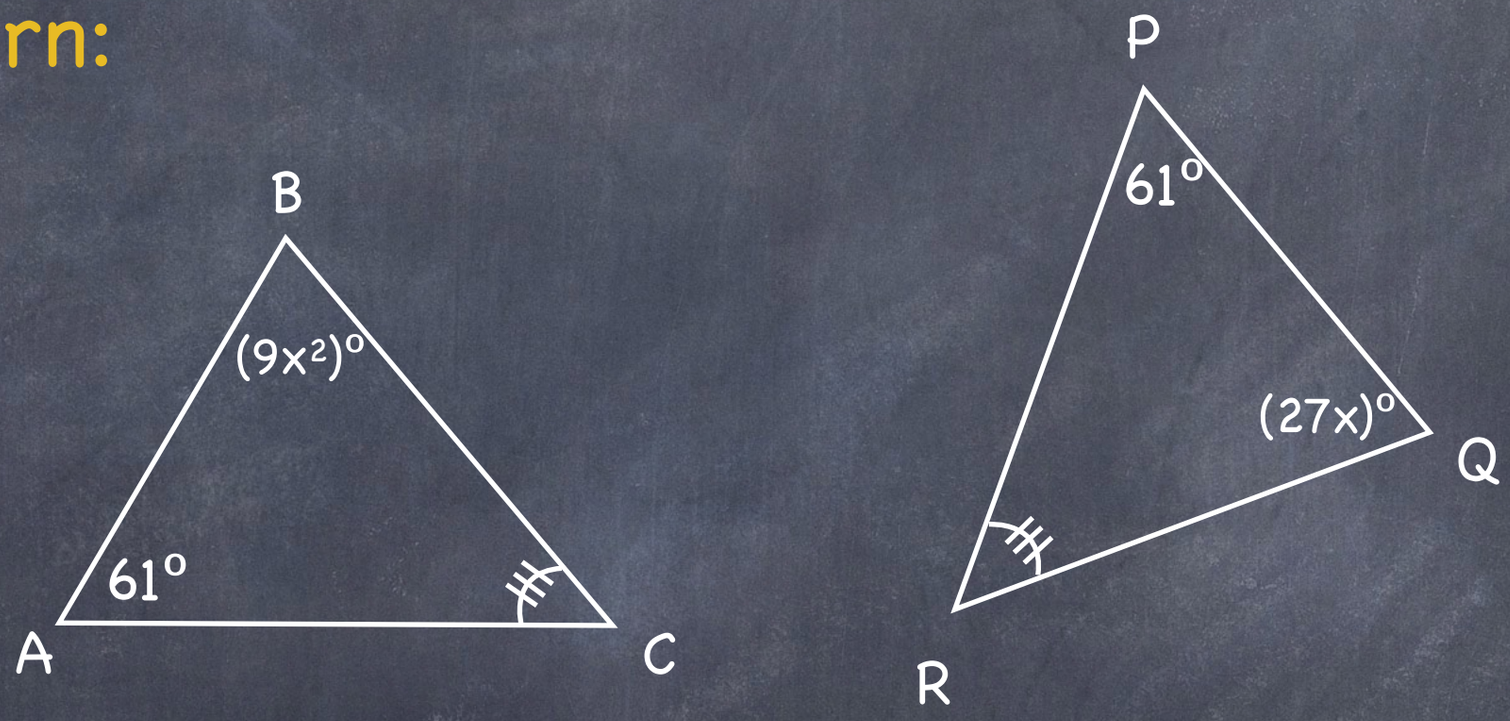
$\angle B \cong \angle Q$

$\angle C \cong \angle R$

Third Angle Theorem

If two angles of one triangle are congruent to two angles of another triangle, then the third pair of angles are congruent.

Your turn:



Find the values of x, $m\angle C$, $m\angle R$, $m\angle B$, and $m\angle Q$

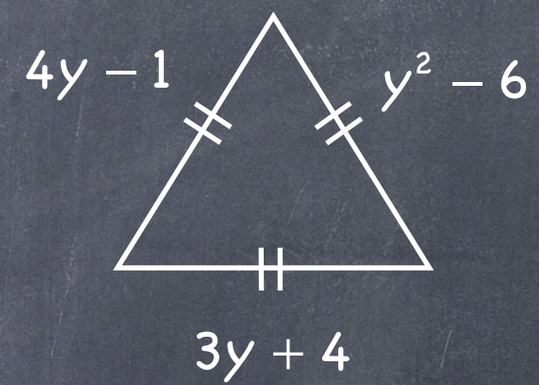
Be ready to discuss these answers in class

Classifying Triangles by Sides

Find the values of x, y, and the measures of the sides of each triangle

Your turn:

- Equilateral - Three congruent sides



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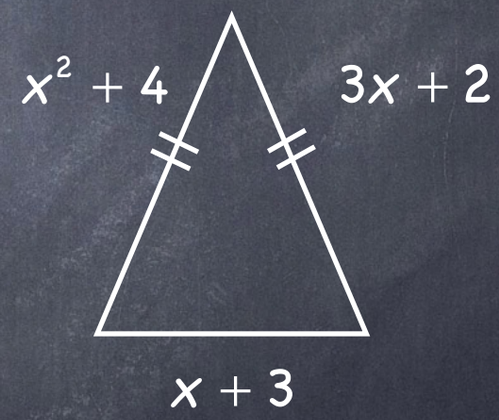

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