

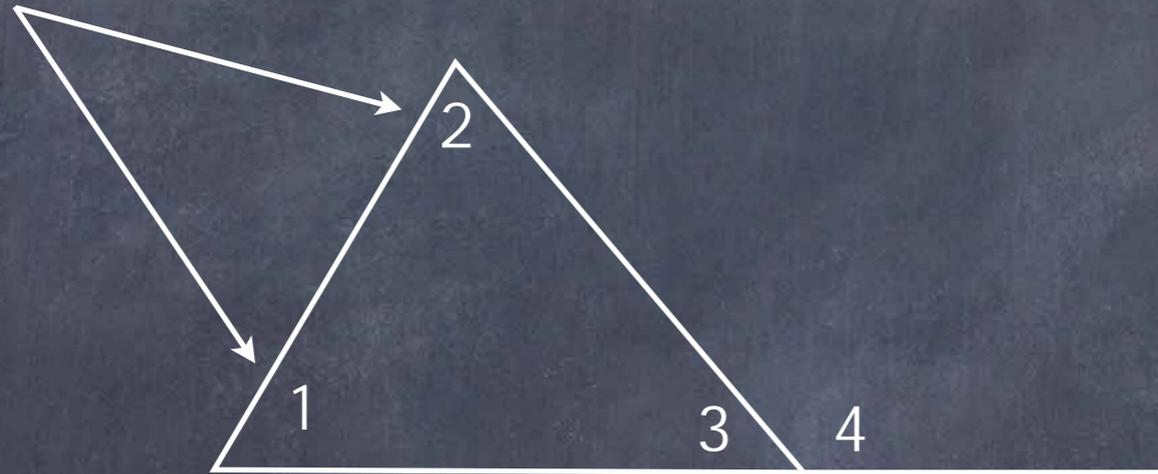
Triangles

Exterior Angles Theorem, Third Angle Theorem,
and Congruent Polygons

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

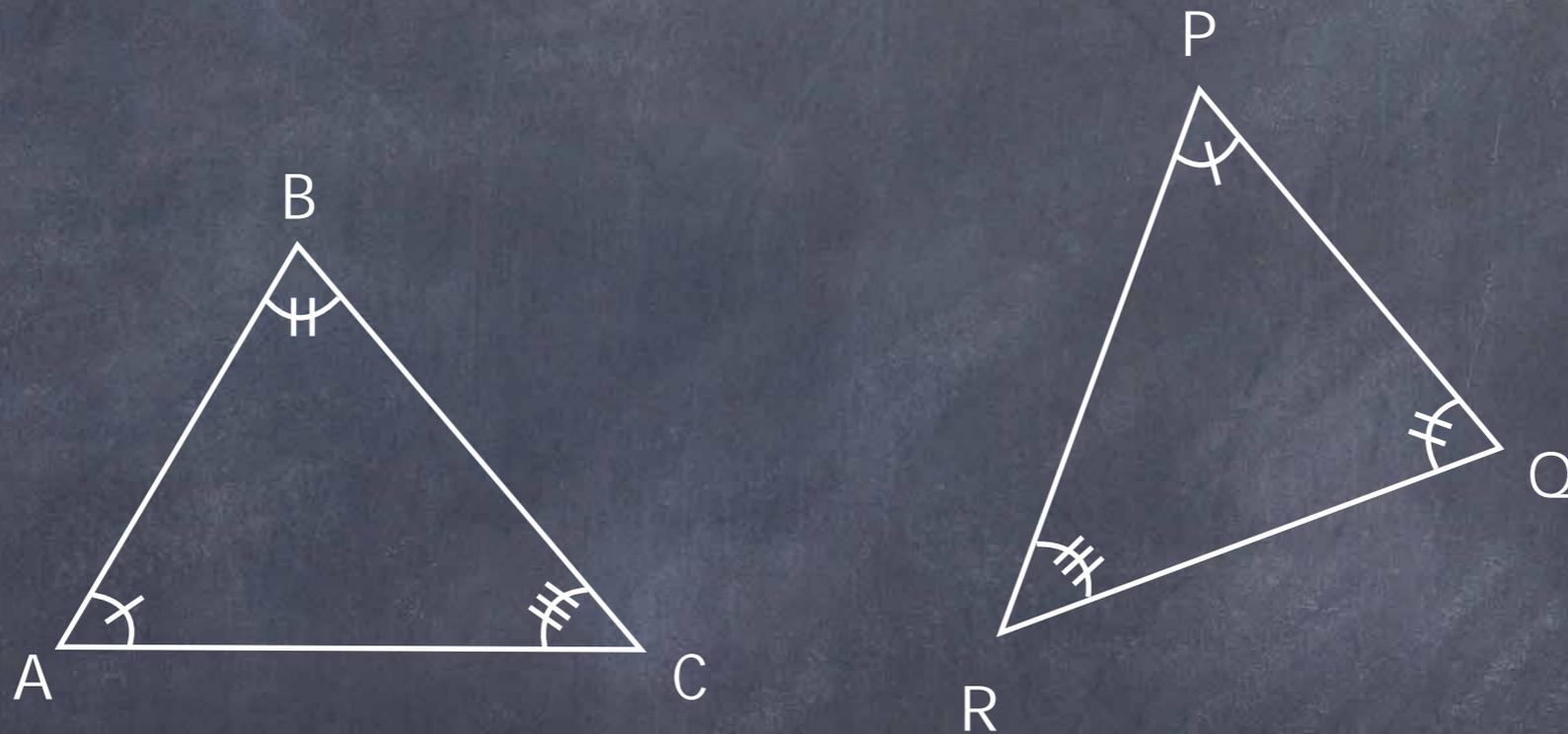
Remote Interior Angles



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

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

$$\angle A \cong \angle P$$

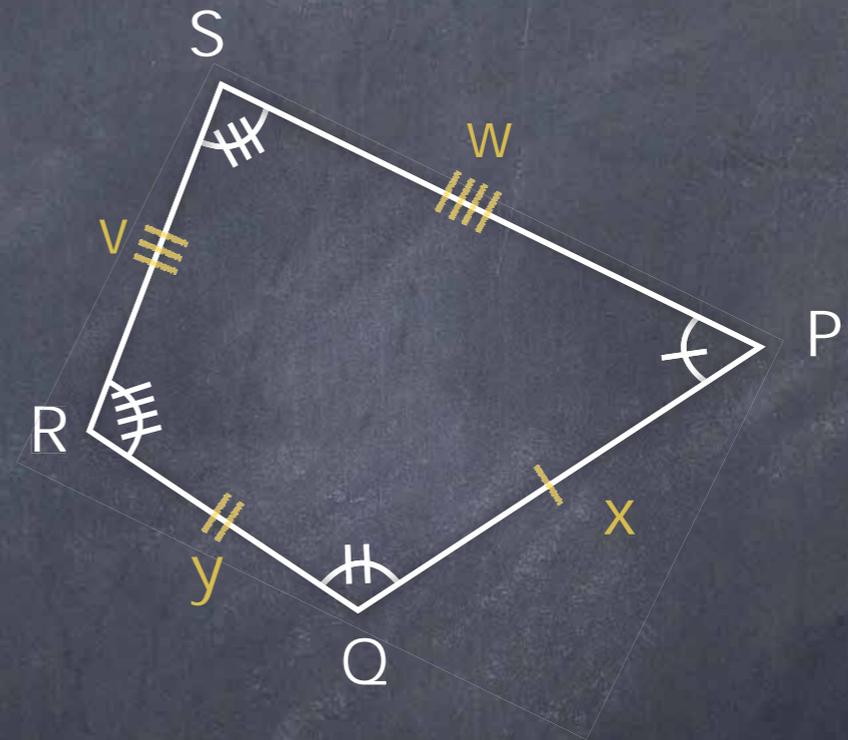
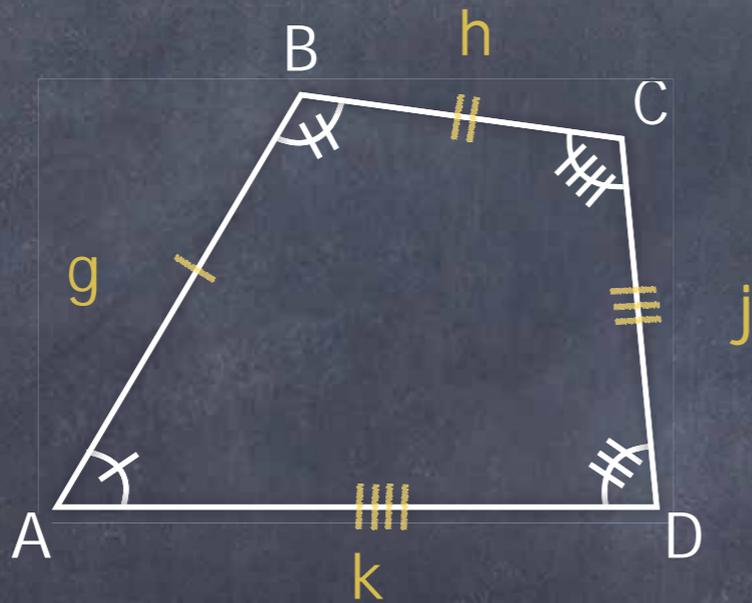
$$\angle B \cong \angle Q$$

$$\angle C \cong \angle R$$

Congruent Polygons

Polygons are considered congruent if their corresponding sides and angles are congruent

But what do we mean when we say corresponding sides and angles?



These are considered corresponding parts of congruent polygons

$$\left\{ \begin{array}{l} \angle A \cong \angle P \\ \angle B \cong \angle Q \\ \angle C \cong \angle R \\ \angle D \cong \angle S \end{array} \right.$$

$$\left. \begin{array}{l} k = w \\ g = x \\ h = y \\ j = v \end{array} \right\}$$

These are considered corresponding parts of congruent polygons