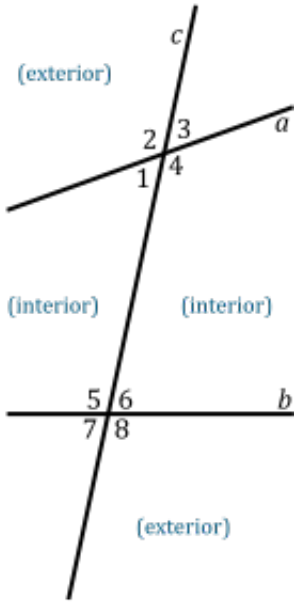
#1: Gr07_2 Geo--Chapter 1. Review - Parallel Lines and Angles in a Triangle

#2: Review - Parallel Lines and Angles in a Triangle. Definitions

Definitions | **Pairs of angles formed by two lines and a transversal**

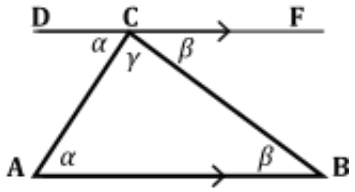
Alternate interior angles – angles in the interior, on the alternate sides of the transversal;
∠1 and ∠6; ∠4 and ∠5.
Alternate exterior angles – angles in the exterior, on the alternate sides of the transversal;
∠2 and ∠8; ∠3 and ∠7.
Corresponding angles – non-adjacent angles on the same side of the transversal, one in the interior while the other is in the exterior;
∠2 and ∠5; ∠3 and ∠6; ∠4 and ∠8; ∠1 and ∠7.
Same side interior angles – angles in the interior, on the same side of the transversal;
∠4 and ∠6; ∠1 and ∠5.
Same side exterior angles – angles in the exterior, on the same side of the transversal;
∠2 and ∠7; ∠3 and ∠8.



Properties and Criteria Theorems for Parallel Lines

$a \parallel b$	Direct ⇒ / ⇐ Converse	**Alt. int. ∠s ≅** **Alt. ext. ∠s ≅** **Corr. ∠s ≅** **S.s.int. ∠s suppl.** **S.s.ext. ∠s suppl.**

Definition



$\alpha + \beta + \gamma = 180°$

Definition: A **triangle** is a polygon with three sides.

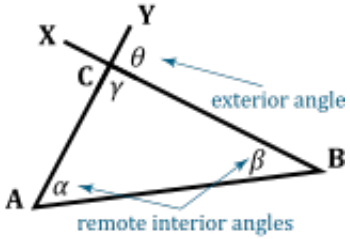
Theorem

Theorem (Sum of ∠s in △): The sum of the measures of the angles in a triangle is 180°.

Definition

Definition: The adjacent supplementary angle to any of the interior angles of a triangle is called an **exterior angle**.

Theorem



$\theta = \alpha + \beta$

Theorem (Exterior Angle): The measure of an exterior angle of a triangle is equal to the sum of the measures of the two remote interior angles. (Prove as an exercise.)

Theorem

Theorem (Exterior ∠ inequality): In a triangle, the measure of any of the exterior angles is bigger than the measure of any of its remote interior angles.
(Prove as an exercise.)

#3: EXERCISES

#4: Part A

#5: Part B