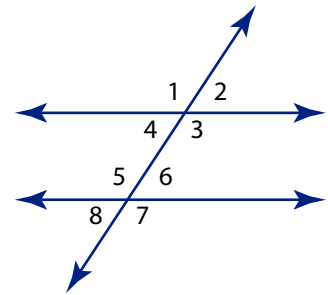


Definitions

<i>Parallel Lines</i>	Lines in a plane that never intersect. Symbol: $\vec{AB} \parallel \vec{BC}$
<i>Transversal</i>	A line that crosses two or more other lines (which need not be parallel).

Angles formed by parallel lines and a transversal

<i>Corresponding Angles</i>	$\angle 1$ & $\angle 5$, $\angle 4$ & $\angle 8$, $\angle 2$ & $\angle 6$, $\angle 3$ & $\angle 7$
<i>Alternate interior</i>	$\angle 4$ & $\angle 6$, $\angle 3$ & $\angle 5$
<i>Same-side interior</i>	$\angle 4$ & $\angle 5$, $\angle 3$ & $\angle 6$
<i>Alternate exterior</i>	$\angle 1$ & $\angle 7$, $\angle 2$ & $\angle 8$
<i>Same-side exterior</i>	$\angle 1$ & $\angle 8$, $\angle 2$ & $\angle 7$



Naming Convention

"Alternate" = opposite sides of the transversal
"Same-side" = same side of the transversal

"Interior" = Between the parallel lines
"Exterior" = Outside the parallel lines

Theorems

Corresponding Angles Congruency Theorem

Corresponding angles are congruent.

Converse: If corresponding angles are congruent, the lines are parallel

Alternate Interior Angles Congruency Theorem

Alternate interior angles are congruent.

Converse: If alternate interior angles are congruent, the lines are parallel.

Same-side Interior Angles Supplementary Theorem

Same-side interior angles are supplementary.

Converse: If same-side interior angles are supplementary, the lines are parallel.

Alternate Exterior Angles Congruency Theorem

Alternate exterior angles are congruent.

Converse: If alternate exterior angles are congruent, the lines are parallel.

Same-side Exterior Angles Supplementary Theorem

Same-side exterior angles are supplementary.

Converse: If same-side exterior angles are supplementary, the lines are parallel.