

### 3 - 2

When lines are parallel....

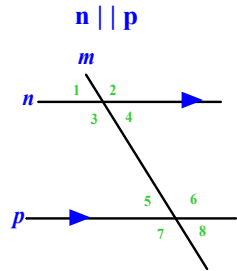
### When Parallel lines exist...

#### Corresponding Angles Postulate

If two parallel lines are cut by a transversal, then each pair of corresponding angles is congruent.

$$\angle 3 \cong \angle 7, \angle 5 \cong \angle 1$$

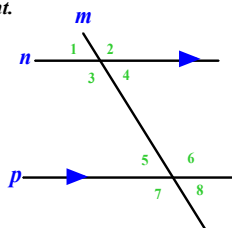
$$\angle 2 \cong \angle 6, \angle 4 \cong \angle 8$$



#### Alternate Interior Angles Theorem

If two parallel lines are cut by a transversal, then each pair of alternate interior angles is congruent.

$$\angle 3 \cong \angle 6, \angle 4 \cong \angle 5$$

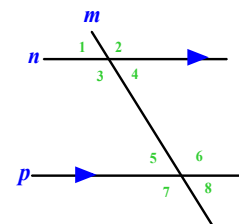


#### Consecutive Interior Angles Theorem

If two parallel lines are cut by a transversal, then each pair of consecutive interior angles is supplementary.

$$\angle 3 + \angle 5 = 180$$

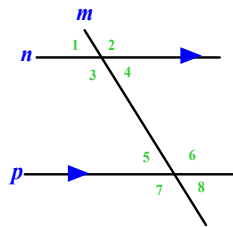
$$\angle 4 + \angle 6 = 180$$



### Alternate Exterior Angles Theorem

*If two parallel lines are cut by a transversal, then each pair of alternate exterior angles is congruent*

$$\angle 1 \cong \angle 8, \angle 2 \cong \angle 7$$



### Perpendicular Transversal

*When a transversal intersects a pair of parallel lines, if the transversal is perpendicular to the first line then it is also perpendicular to the second line.*

