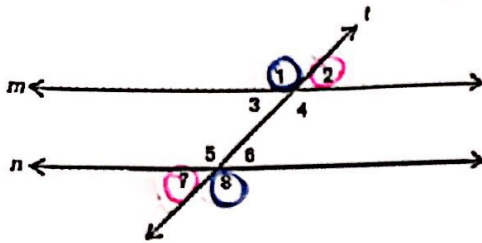


Day 5 – Parallel Line Relationships Notes

Definition:

Parallel Lines are two lines that never intersect. They are always the same distance apart.

Alternate Exterior Angles



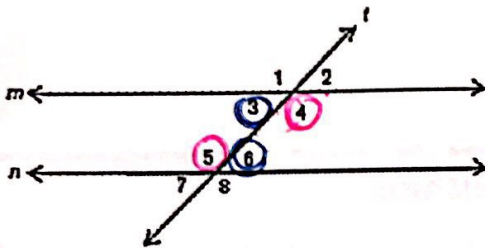
Definition:

Two angles in the exterior of the parallel lines and on alternate sides.

If 2 alternate exterior angles are cut by a transversal, then the pairs of alternate exterior angles are congruent.

Other Alternate Exterior Angles:

Alternate Interior Angles



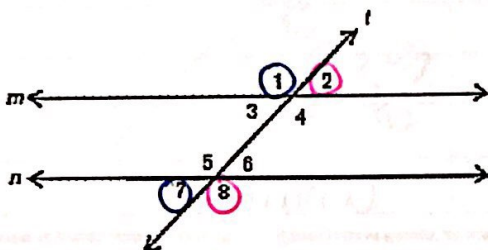
Definition:

Two angles in the interior of the parallel lines and on alternate sides.

If 2 alternate interior angles are cut by a transversal, then the pairs of alternate interior angles are congruent.

Other Alternate Interior Angles:

Consecutive (Same Side) Exterior Angles



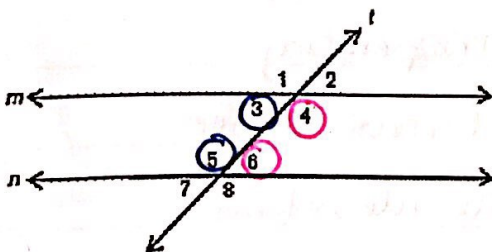
Definition:

Two angles in the exterior of the parallel lines and on same sides.

If 2 same side exterior angles are cut by a transversal, then the pairs of consecutive exterior angles are supplementary.

Other Same Side Exterior Angles:

Consecutive (Same Side) Interior Angles



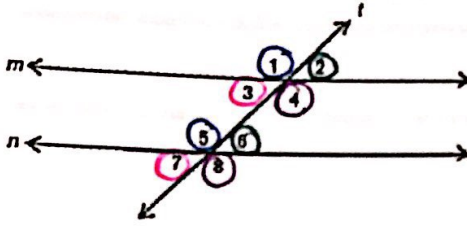
Definition:

Two angles in the interior of the parallel lines and on same sides.

If 2 same side interior angles are cut by a transversal, then the pairs of consecutive interior angles are supplementary.

Other Same Side Interior Angles:

Corresponding Angles

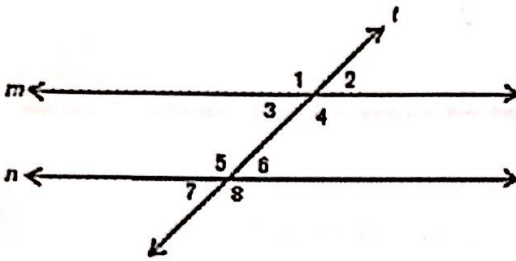


Definition:
Two angles that lie in the same location.

If 2 corresponding angles are cut by a transversal, then the pairs of corresponding angles are congruent.

Other Corresponding Angles:

Transversal

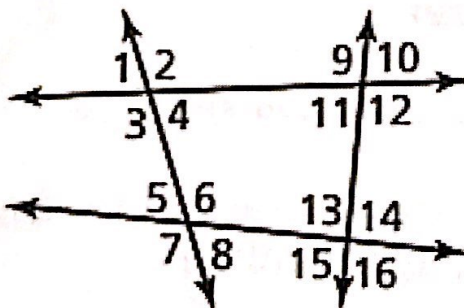


Definition:
A transversal is a line that intersects two or more coplanar lines at different points.

Summary of Parallel Line Relationships

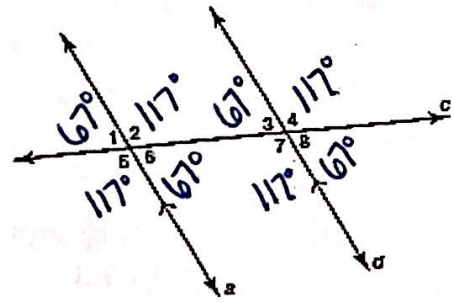
Relationships with Parallel & Non Parallel Lines		
Angle Type	Parallel Lines	Non Parallel Lines
Alternate Exterior Angles	Congruent	No Relationships
Alternate Interior Angles	Congruent	
Same Side Exterior Angles	Supp	
Same Side Interior Angles	Supp	
Corresponding Angles	Congruent	
Vertical Angles	Compliment	Congruent

a. Identify the type of angle relationship created by the two angles listed.

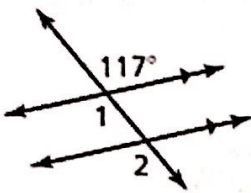


- a. $\angle 4$ and $\angle 6$ Same side interior
- b. $\angle 5$ and $\angle 8$ Vertical angles
- c. $\angle 9$ and $\angle 13$ Corresponding
- d. $\angle 2$ and $\angle 11$ alternate interior
- e. $\angle 1$ and $\angle 7$ Same side exterior
- f. $\angle 3$ and $\angle 4$ linear pair

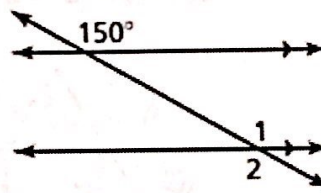
b. If the measure of angle 1 = 67° and a is parallel to d , find all other angles of the same measure.



c. Find the measures of angles 1 and 2.



$\angle 1 = 117^\circ$ (vertical \angle 's)
 $\angle 2 = 117^\circ$ (corresponding to $\angle 1$)



$\angle 1 = 150^\circ$ (corresponding)
 $\angle 2 = 150^\circ$ (vertical angles)