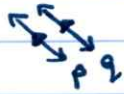# Chapter 3: Angles and Triangles

3.1 Parallel Lines and Transversals p.104
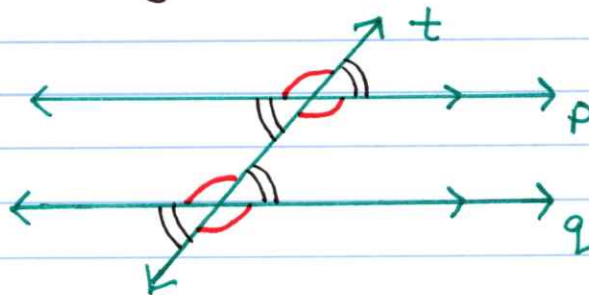
Parallel Lines: Lines in the same plane that do not intersect; equal distance apart

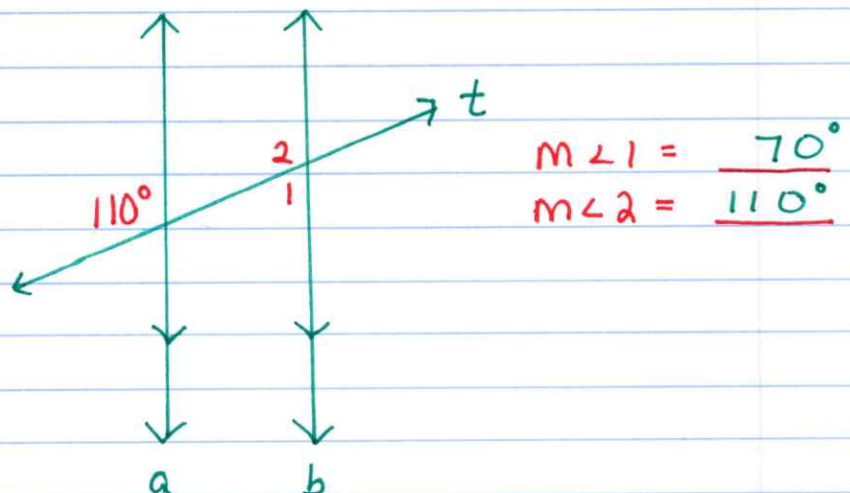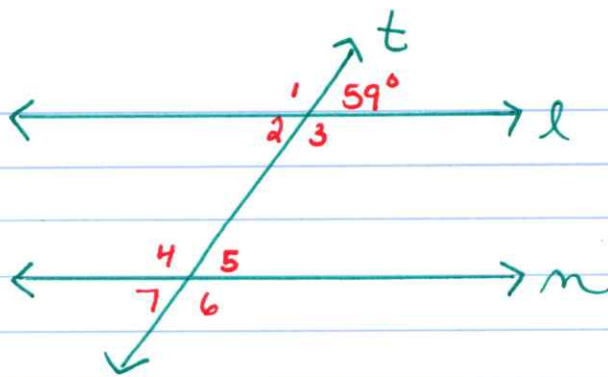**Perpendicular Lines:** Lines that intersect at right angles

Transversal: a line that intersects two or more lines; when parallel lines are cut by a transversal, several pairs of congruent angles are formed
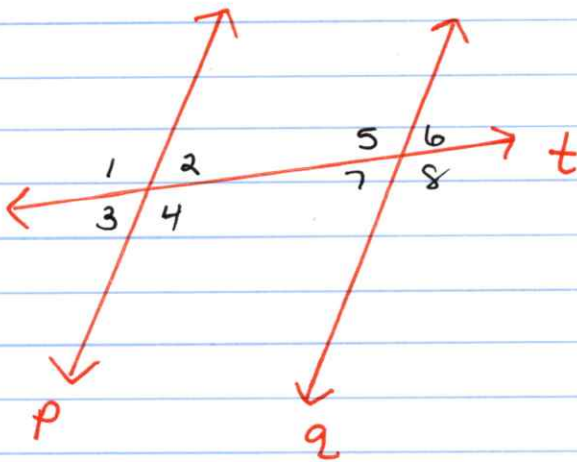
When 2 parallel lines are cut by a transversal, 8 angles are formed. 4 of them are congruent and the other 4 are congruent.
Also, adjacent angles are supplementary (180°)

$m \angle 1 = \underline{70°}$

$m \angle 2 = \underline{110°}$

$m \angle 1 = 121°$ $m \angle 3 = 121°$ $m \angle 5 = 59°$ $m \angle 7 = 59°$

$m \angle 2 = 59°$ $m \angle 4 = 121°$ $m \angle 6 = 121°$

Interior Angles : $\angle 2, \angle 4, \angle 5, \angle 7$

Exterior Angles : $\angle 1, \angle 3, \angle 6, \angle 8$

Alternate Interior Angles: $\angle 2$ and $\angle 7$
  are congruent $\angle 4$ and $\angle 5$
Alternate Exterior Angles: $\angle 1$ and $\angle 8$
  are congruent $\angle 3$ and $\angle 6$