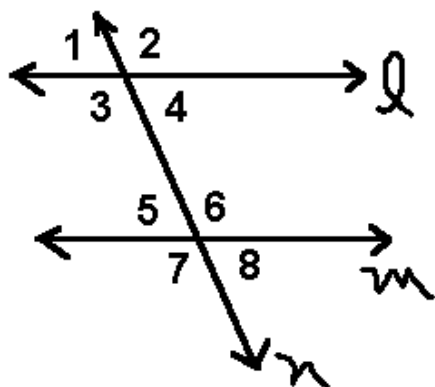


if two parallel lines and a transversal form angles that are all congruent describe the relationship between the transversal and each of the parallel lines



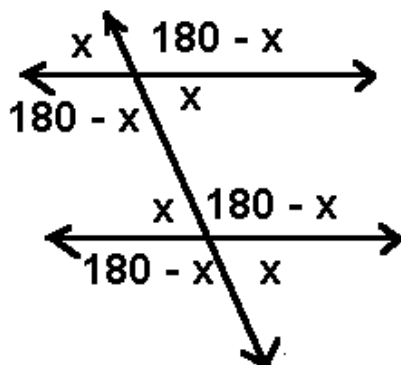
If a set of two parallel lines, line l and line m, are crossed or cut by another line, line n, we say "a set of parallel lines are cut by a transversal."

Each of the parallel lines cut by the transversal has 4 angles surrounding the intersection.

These are matched in measure and position with a counterpart at the other parallel line.

At each of the parallel lines, there are two pairs of vertical angle. Each angle in the pair is congruent to the other angle in the pair:

- $\angle 1 \cong \angle 4$, angle 1 is congruent to angle 4,
- $\angle 2 \cong \angle 3$, angle 2 is congruent to angle 3,
- $\angle 5 \cong \angle 8$, angle 5 is congruent to angle 8,
- $\angle 6 \cong \angle 7$, angle 6 is congruent to angle 7.



At each of the parallel lines adjacent angles are supplementary, that means that these angles measures total 180 degree.