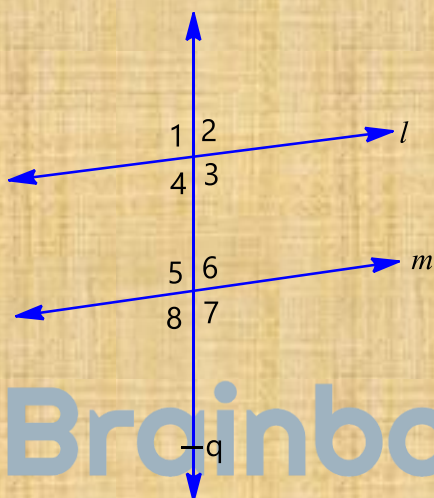


CHAPTER 06

Lines and Angles

Results of a transversal intersecting two parallel lines:

Corresponding angles axiom and its converse:



- If a transversal intersects two parallel lines, then each pair of corresponding angles are equal.

Hence,

$$\text{I) } \angle 1 = \angle 5$$

$$\text{II) } \angle 2 = \angle 6$$

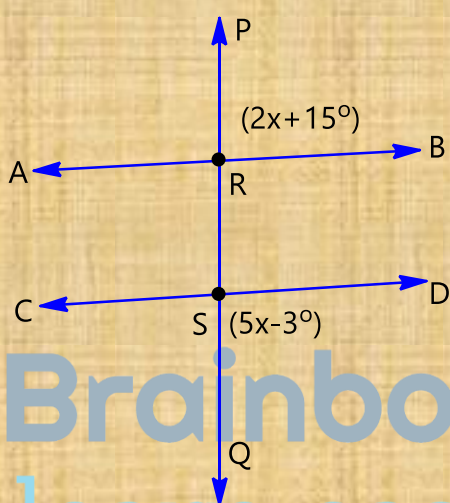
$$\text{III) } \angle 3 = \angle 7$$

$$\text{IV) } \angle 4 = \angle 8$$

- If a transversal intersects two lines such that a pair of corresponding angles are equal, then the two lines are parallel to each other.

Example:

In the diagram $AB \parallel CD$. Find x .



Sol.

$$\because AB \parallel CD$$

$$\Rightarrow (2x + 15^\circ) + (5x - 3^\circ) = 180^\circ$$

($\because$ Co – exterior angles)

$$\Rightarrow 8x + 12^\circ = 180^\circ$$

$$\Rightarrow 8x = 180^\circ - 12^\circ = 68^\circ$$

$$\therefore x = \frac{68}{8} = \frac{17}{2} \Rightarrow x = \frac{17^\circ}{2}$$