



### Lines and Angles Ex 8.3 Q12

**Answer :**

(i) True

As the sum of the angles forming a linear pair is  $180^\circ$ .

(ii) False

As the statement is incomplete in itself.

(iii) False

Let us assume one of the angle in a linear pair be  $x^\circ$ ; such that  $x^\circ < 90^\circ$ , that is, an acute angle.

Therefore, the other angle in the linear pair becomes  $(180 - x)^\circ$ , which clearly cannot be acute.

(iv) True

Let one of the angle in the linear pair be  $x^\circ$ . Then, other angle also becomes equal to  $x^\circ$ .

Therefore, by the definition of linear pair, we get:

$$x + x = 180^\circ$$

$$2x = 180^\circ$$

$$x = \frac{180^\circ}{2}$$

$$x = 90^\circ$$

Hence, if angles forming a linear pair are equal, then each of these angles is of measure  $90^\circ$ .

### Lines and Angles Ex 8.3 Q13

**Answer :**

(i)

If one angle of a linear pair be acute, then its other angle will be obtuse.

Explanation:

Let us assume one of the angle in a linear pair be  $x^\circ$ ; such that  $x^\circ < 90^\circ$ , that is, an acute angle.

Therefore, the other angle in the linear pair becomes  $(180 - x)^\circ$ , which clearly cannot be acute.

(ii)

A ray stands on a line, and then the sum of the two adjacent angles so formed is  $180^\circ$ .

Explanation:

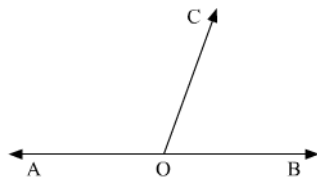
The statement talks about two adjacent angles forming a linear pair.

(iii) If the sum of the two adjacent angles is  $180^\circ$ , then the uncommon arms of the two angles are opposite rays.

Explanation:

The statement talks about two adjacent angles forming a linear pair.

Therefore, this can be drawn diagrammatically as:



\*\*\*\*\* END \*\*\*\*\*