

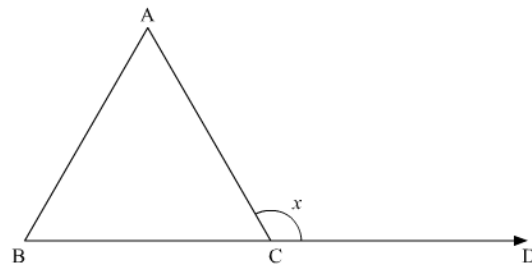


Thus, if one angle of a triangle is obtuse, then it cannot be a right angled triangle.

Therefore, the given statement is **true**.

(ix) An exterior angle of a triangle is less than either of its interior opposite angles

According to the exterior angle property, an exterior angle of a triangle is equal to the sum of the two opposite interior angles.



In  $\triangle ABC$

Let  $x$  be the exterior angle

So,

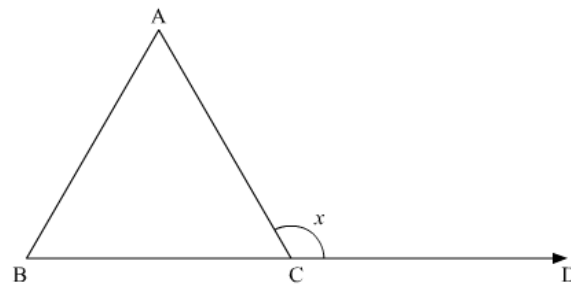
$$x = \angle CAB + \angle CBA$$

Now, if  $x$  is less than either of its interior opposite angles

$$x < \angle CAB + \angle CBA$$

Therefore, the given statement is **false**.

(x) An exterior angle of a triangle is equal to the sum of the two interior opposite angles.

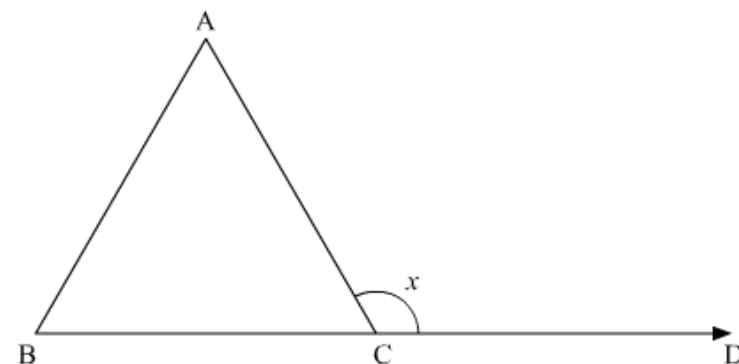


According to exterior angle theorem,

$$\text{ext. } x = \angle CAB + \angle CBA$$

Therefore, the given statement is **true**.

(xi) An exterior angle of a triangle is greater than the opposite interior angles.



According to exterior angle theorem,

$$\text{ext. } x = \angle CAB + \angle CBA$$

Since, the exterior angle is the sum of its interior angles.

Thus,

$$\text{ext. } x > \angle CAB$$

$$\text{ext. } x > \angle CBA$$

Therefore, the given statement is **true**.

**Answer :**

(i) Sum of the angles of a triangle is **180°**.

As we know, that according to the angle sum property, sum of all the angles of a triangle is  $180^\circ$ .

(ii) An exterior angle of a triangle is equal to the two **interior** opposite angles.

(iii) An exterior angle of a triangle is always **greater** than either of the interior opposite angles.

As according to the property: An exterior angle of a triangle is equal to the sum of two interior opposite angles. Therefore, it has to be greater than either of them.

(iv) A triangle cannot have more than **one** right angle.

As the sum of all the angles of a triangle is  $180^\circ$ . So, if the triangle has more than one right angle the sum would exceed  $180^\circ$ .

(v) A triangle cannot have more than **one** obtuse angle

As the sum of all the angles of a triangle is  $180^\circ$ . So, if the triangle has more than one obtuse angle the sum would exceed  $180^\circ$ .

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