Exercise 16A

Q1

Answer :

We get a triangle by joining the three non-collinear points A, B and C.
(i) The side opposite to ∠C is AB.
(ii) The angle opposite to the side BC is ∠A.
(iii) The vertex opposite to the side CA is B.
(iv) The side opposite to the vertex B is AC.

Q2

Answer :

The measures of two angles of a triangle are 72° and 58°.
Let the third angle be x.
Now, the sum of the measures of all the angles of a triangle is 180°.

$\therefore \quad x + 72^\circ + 58^\circ = 180^\circ$

$\Rightarrow x + 130^\circ = 180^\circ$

$\Rightarrow x = 180^\circ - 130^\circ$

$\Rightarrow x = 50^\circ$

The measure of the third angle of the triangle is 50°.

Q3

Answer :

The angles of a triangle are in the ratio 1:3:5.
Let the measures of the angles of the triangle be (1x), (3x) and (5x)
Sum of the measures of the angles of the triangle = 180°

$\therefore 1x + 3x + 5x = 180^\circ$

$\Rightarrow 9x = 180^\circ$

$\Rightarrow x = 20^\circ$

$1x = 20^\circ$
$3x = 60^\circ$
$5x = 100^\circ$
The measures of the angles are 20°, 60° and 100°.

Q4

Answer :

In a right angle triangle, one of the angles is 90°.
It is given that one of the acute angled of the right angled triangle is 50°.
We know that the sum of the measures of all the angles of a triangle is 180°.
Now, let the third angle be x.
Therefore, we have:

$90^\circ + 50^\circ + x = 180^\circ$

$\Rightarrow \quad 140^\circ + x = 180^\circ$

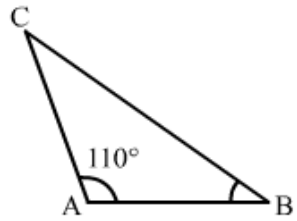
$\Rightarrow \quad x = 180^\circ - 140^\circ$

$\Rightarrow \quad x = 40^\circ$

The third acute angle is 40°.

Q5

Answer :



Given:

$\angle A = 110^o$ and $\angle B = \angle C$

Now, the sum of the measures of all the angles of a traingle is 180^o .

$\angle A + \angle B + \angle C = 180^o$

$\Rightarrow \quad 110^o + \angle B + \angle B = 180^o$

$\Rightarrow \quad 110^o + 2\angle B = 180^o$

$\Rightarrow \quad 2\angle B = 180^o - 110^o$

$\Rightarrow \quad 2\angle B = 70^o$

$\Rightarrow \quad \angle B = 70^o / 2$

$\Rightarrow \quad \angle B = 35^o$

$\therefore \angle C = 35^o$

The measures of the three angles:

$\angle A = 110^o$, $\angle B = 35^o$, $\angle C = 35^o$

Q6

Answer :

Given:

$\angle A = \angle B + \angle C$

We know:

$\angle A + \angle B + \angle C = 180^o$

$\Rightarrow \angle B + \angle C + \angle B + \angle C = 180^o$

$\Rightarrow 2\angle B + 2\angle C = 180^o$

$\Rightarrow 2(\angle B + \angle C) = 180^o$

$\Rightarrow \angle B + \angle C = 180/2$

$\Rightarrow \angle B + \angle C = 90^o$

$\therefore \angle A = 90^o$

This shows that the triangle is a right angled triangle.

********** END **********