

Exercise 15A

Answer:

Sum of the angles of a triangle is 180°.

$$\therefore \angle A + \angle B + \angle C = 180^{\circ}$$

 $72^{\circ} + 63^{\circ} + \angle C = 180^{\circ}$
 $\angle C = 45^{\circ}$

Hence, ∠C measures 45°.

Q2

Answer:

Sum of the angles of any triangle is 180°.

In ADEF:

$$\angle D + \angle E + \angle F = 180^{\circ}$$

 $\angle D + 105^{\circ} + 40^{\circ} = 180^{\circ}$
or $\angle D = 180^{\circ} - (105^{\circ} + 40^{\circ})$
or $\angle D = 35^{\circ}$

03

Answer:

Sum of the angles of any triangle is 180°. In ΔXYZ :

$$\angle X + \angle Y + \angle Z = 180^{\circ}$$

 $90^{\circ} + \angle Y + 48^{\circ} = 180^{\circ}$
 $= > \angle Y = 180^{\circ} - 138^{\circ} = 42^{\circ}$

Q4

Answer:

Suppose the angles of the triangle are (4x)0, (3x)0 and (2x)0.

Sum of the angles of any triangle is 180°

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4x + 3x + 2x = 180
9x = 180
x = 20
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Therefore, the angles of the triangle are $(4\times20)^{\circ}$, $(3\times20)^{\circ}$ and $(2\times20)^{\circ}$, i.e. 80° , 60° and 40° .

Q5

Answer:

Sum of the angles of a triangle is 180°. Suppose the other angle measures *x*.

It is a right angle triangle. Hence, one of the angle is 90°.

$$\therefore 36^{\circ} + 90^{\circ} + x = 180^{\circ}$$

 $x = 54^{\circ}$

Hence, the other angle measures 54°.

Q6

Answer:

Suppose the acute angles are $(2x)^{\circ}$ and $(x)^{\circ}$ Sum of the angles of any triangle is 180°

∴
$$2x+x+90 = 180$$

⇒ $(3x) = 180-90$
⇒ $(3x) = 90$
⇒ $x = 30$
So, the angles measure $(2\times30)^\circ$ and 30° i.e. 60° and 30°

Q7

Answer:

The other two angles are equal. Let one of these angles be x° .

Sum of angles of any triangle is 180°.

$$x + x + 100 = 180$$

 $2x = 80$
 $x = 40$

Hence, the equal angles of the triangle are 40° each.

Q8

Answer:

Suppose the third angle of the isosceles triangle is x^0 . Then, the two equal angles are $(2x)^0$ and $(2x)^0$. Sum of the angles of any triangle is 180^0 .

$$2x + 2x + x = 180$$

 $5x = 180$
 $x = 36$

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