



Exercise 17C

Q25

Answer :

$$\left(\begin{array}{l} c \\ 30 \end{array} \right)$$

Here, $\angle DCG + \angle CGF = 180^\circ$ (angles on the same side of a transversal line are supplementary)

$$\Rightarrow \angle CGF = 180^\circ - 100^\circ = 80^\circ$$

$$\angle ABG = \angle BGF = 110^\circ \quad [\text{alternate angles}]$$

$$x^\circ + \angle CGF = 110^\circ$$

$$\Rightarrow x^\circ = 110^\circ - 80^\circ$$

$$\Rightarrow x^\circ = 30^\circ$$

$$\therefore x = 30$$

Q26

Answer :

(d) greater than the 3rd side

Q27

Answer :

(d) The diagonals of a rhombus always bisect each other at right angles.

Q28

Answer :

$$\left(\begin{array}{l} c \\ 12 \text{ cm} \end{array} \right)$$

In a right angle triangle:

$$AC^2 = AB^2 + BC^2 \quad (\text{Pythagoras theorem})$$

$$\Rightarrow BC^2 = 13^2 - 5^2$$

$$\Rightarrow BC^2 = 169 - 25$$

$$\Rightarrow BC^2 = 144$$

$$\Rightarrow BC = \pm 12$$

The length cannot be negative.

$$\therefore BC = 12 \text{ cm}$$

Q29

Answer :

$$\left(c \right) 114^{\circ}$$

In triangle ABC:

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

$$\Rightarrow \angle A = 180^{\circ} - (37^{\circ} + 29^{\circ})$$

$$\begin{aligned} \Rightarrow \angle A &= 180^{\circ} - (66^{\circ}) \\ &= 114^{\circ} \end{aligned}$$

Q30

Answer :

$$\left(c \right) 105^{\circ}$$

Suppose the angles of a triangle are $2x$, $3x$ and $7x$.

Sum of the angles of a triangle is 180° .

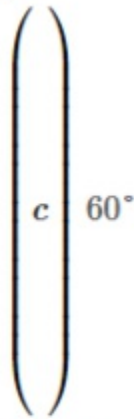
$$2x + 3x + 7x = 180$$

$$\Rightarrow 12x = 180$$

$$\Rightarrow x = 15^\circ$$

$$\text{Measure of the largest angle} = 15^\circ \times 7 = 105^\circ$$

Q31



Given :

$$2\angle A = 3\angle B \text{ or } \angle A = \frac{3}{2}\angle B$$

$$3\angle B = 6\angle C, \text{ or } \angle C = \frac{1}{2}\angle B$$

In a $\triangle ABC$:

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

$$\Rightarrow \frac{3}{2}\angle B + \angle B + \frac{1}{2}\angle B = 180^\circ$$

$$\Rightarrow \frac{3\angle B + 2\angle B + \angle B}{2} = 180^\circ$$

$$\Rightarrow \frac{6\angle B}{2} = 180^\circ$$

$$\Rightarrow \angle B = \frac{360^\circ}{6}$$

$$\Rightarrow \angle B = 60^\circ$$

***** END *****