Exercise 17C

Q32

Answer :

$(a)\ 25^\circ$

Given :

$\angle A+\angle B=65^\circ$

$\angle A=65^\circ-\angle B \qquad \ldots(i)$

$\angle B+\angle C=140^\circ$

$\angle C=140^\circ-\angle B \qquad \ldots(ii)$

In ΔABC :

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

Putting the value of $\angle$B and $\angle$C :

$\Rightarrow 65^\circ-\angle B+\angle B+140^\circ-\angle B=180^\circ$

$\Rightarrow -\angle B=180^\circ-205^\circ$

$\Rightarrow \angle B=25^\circ$

Q33

Answer :

$$\left(b\right) 55^\circ$$

In $\triangle$ ABC:

$$\angle A + \angle B + \angle C = 180^0 \quad \ldots(i)$$

Given:

$$\angle A - \angle B = 33^0 => \angle A = \angle B + 33^0 \quad \ldots(ii)$$

$$\angle B - \angle C = 18^0 => \angle C = \angle B - 18^0 \quad \ldots(iii)$$

Using (ii) and (iii) in equation (i) :

$$=> \angle B + 33^0 + \angle B + \angle B - 18^0 = 180^0$$
$$=> 3\angle B + 15^0 = 180^0$$
$$=> 3\angle B = 165^0$$
$$=> \angle B = \frac{165^0}{3} = 55^0$$

Q34

Answer :

$\left(\mathbf{c}\right)$ 22

Sum of the angles of a triangle is 180°.

$$(3\mathbf{x})^\circ + (2\mathbf{x} - 7)^\circ + (4\mathbf{x} - 11)^\circ = 180^\circ$$
$$=> 9\mathbf{x}^\circ - 18^\circ = 180^\circ$$
$$=> 9\mathbf{x}^\circ = 198^\circ$$
$$=> \mathbf{x}^\circ = 22^\circ$$
$$\Rightarrow \mathbf{x} = 22$$

Q35

Answer :

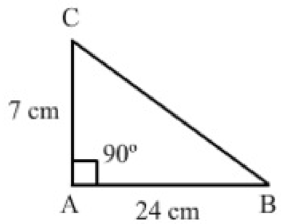
(c) 25 cm

In a right angle triangle ABC:

$$AC^2 = BC^2 + AB^2$$
$$=> BC^2 = 24^2 + 7^2$$
$$=> BC^2 = 576 + 49$$
$$=> BC^2 = 625$$
$$=> BC = \pm 25 \text{ cm}$$

Since the length cannot be negative, we will negelect -25.

$\therefore$ BC = 25 cm



Q36

Answer :

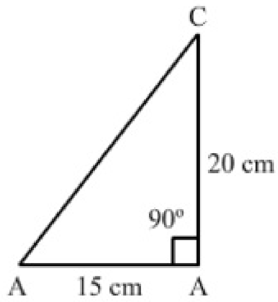
$\left(b\right)$ 25 m

In right triangle ABC:

$$AC^2 = AB^2 + BC^2$$
$$= 15^2 + 20^2$$
$$\Rightarrow AC^2 = 625$$
$$\Rightarrow AC = \pm 25$$

Since the length cannot be negative, we will negelect -25.

$\therefore$ Length of the ladder $= 25$ m



Q37

Answer :

$\left(a\right)$ 13 m

Suppose there are two poles AE and BD.

EC = AB = 12 m $\quad$ (ABCE is a rectangle)

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