



Exercise 17C

Q1

Answer :

$$(c) \ 135^\circ$$

$$\begin{aligned}\text{Supplement of } 45^\circ &= 180^\circ - 45^\circ \\ &= 135^\circ\end{aligned}$$

Q2

Answer :

$$(b) \ 10^\circ$$

$$\begin{aligned}\text{Complement of } 80^\circ &= 90^\circ - 80^\circ \\ &= 10^\circ\end{aligned}$$

Q3

Answer :

$$(b) 45^\circ$$

Suppose the angle is x° .

Then, the complement is also x° .

$$\text{Complement of } x^\circ = 90^\circ - x^\circ$$

$$\Rightarrow x^\circ = 90^\circ - x^\circ$$

$$\Rightarrow x^\circ + x^\circ = 90^\circ$$

$$\Rightarrow 2x^\circ = 90^\circ$$

$$\Rightarrow x = \frac{90}{2}$$

$$\Rightarrow x = 45$$

Q4

Answer :

$$(a) \ 30^\circ$$

Suppose the angle is x .

$$x = \frac{(180-x)}{5}$$

$$\Rightarrow 5x = 180 - x$$

$$\Rightarrow 5x + x = 180$$

$$\Rightarrow x = \frac{180}{6}$$

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

Q5

Answer :

$$(b) \ 57^\circ$$

Suppose the angle is x .

$$x = 90 - x + 24$$

$$\Rightarrow x + x = 114$$

$$\Rightarrow 2x = 114$$

$$\Rightarrow x = \frac{114}{2}$$

$$\Rightarrow x = 57^\circ$$

Q6

Answer :

$$(b) \ 74^\circ$$

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Suppose the angle is x .

$$x = 180 - x - 32$$

$$\Rightarrow x + x = 148$$

$$\Rightarrow 2x = 148$$

$$\Rightarrow x = \frac{148}{2}$$

$$\Rightarrow x = 74^\circ$$

Q7

Answer :

$$\left(c \right) 72^\circ$$

Supplementary angles:

$$3x + 2x = 180$$

$$\Rightarrow x = \frac{180}{5}$$

$$\Rightarrow x = 36^\circ$$

$$\begin{aligned}\text{Smaller angle} &= (2 \times 36^\circ) \\ &= 72^\circ\end{aligned}$$

Q8

Answer :

$$(b) 48^\circ$$

$$\angle AOC + \angle BOC = 180^\circ \text{ (linear pair)}$$

$$\angle AOC = 180^\circ - \angle BOC$$

$$= 180^\circ - 132^\circ$$

$$= 48^\circ$$

Q9

Answer :

(x) 112

$$\angle AOC + \angle AOB = 180^\circ \quad (\text{linear pair})$$

$$68^\circ + x^\circ = 180^\circ$$

$$\Rightarrow x^\circ = 180^\circ - 68^\circ$$

$$\Rightarrow x^\circ = 112^\circ$$

Q10

Answer :

$$(c) x = 35$$

$$(2x - 10) + (3x + 15) = 180$$

$$\Rightarrow 2x - 10 + 3x + 15 = 180$$

$$\Rightarrow 5x + 5 = 180$$

$$\Rightarrow 5x = 180 - 5$$

$$\Rightarrow 5x = 175$$

$$\Rightarrow x = \frac{175}{5}$$

$$\Rightarrow x = 35$$

Q11

Answer :

$$(d) x = 80$$

$$x + 55 + 45 = 180 \quad (\text{linear pair})$$

$$\Rightarrow x = 180 - 55 - 45$$

$$\Rightarrow x = 180 - 100$$

$$\Rightarrow x = 80$$

***** END *****