Exercise 13A

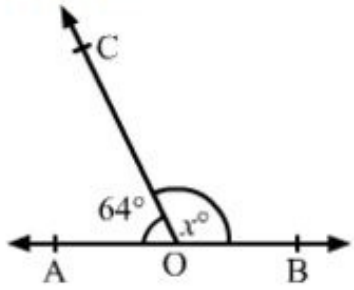
Q6

Answer :

By linear pair property:

$$\angle AOC + \angle COB = 180^\circ$$
$$64^\circ + \angle COB = 180^\circ$$
$$\angle COB = x^\circ = 180^\circ - 64^\circ = 116^\circ$$

$\therefore$ x = 116

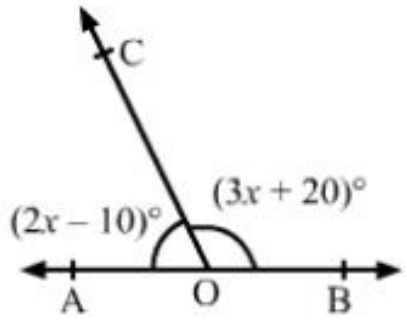


Q7

Answer :

By linear pair property:

$$\angle AOC + \angle BOC = 180^\circ$$
$$or\ (2x - 10)^\circ + (3x + 20)^\circ = 180^\circ \quad (given)$$
$$or\ 5x + 10 = 180$$
$$or\ 5x = 170$$
$$or\ x = 34$$
$$\therefore \angle AOC = (2x - 10)^\circ = (2 \times 34 - 10)^\circ = 58^\circ$$
$$\angle BOC = (3x + 20)^\circ = (3 \times 34 + 20)^\circ = 122^\circ$$

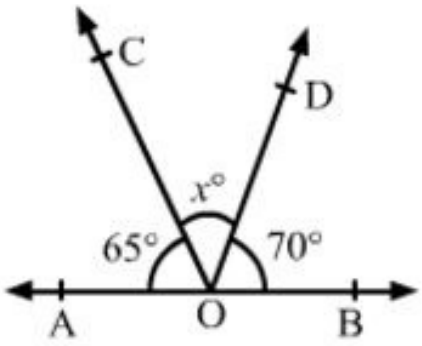


Q8

Answer :

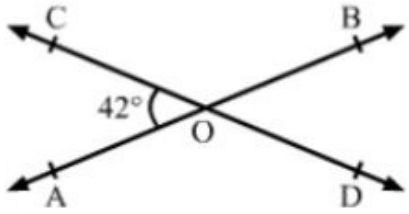
Since AOB is a straight line, we have:

$\angle AOC + \angle BOD + \angle COD = 180^\circ$
or $65^\circ + 70^\circ + x^\circ = 180^\circ$ **(given)**
or $135^\circ + x^\circ = 180^\circ$
or $x^\circ = 45^\circ$
Thus, the value of x is 45



Q9

Answer :



AB and CD intersect at O and CD is a straight line.

(i) $\angle COA + \angle AOD = 180^\circ$ (linear pair)
$42^\circ + \angle AOD = 180^\circ$
$\angle AOD = 138^\circ$
(ii) $\angle COA$ and $\angle BOD$ are vertically opposite angles.

$\therefore \angle COA = \angle BOD = 42^\circ$ [from (i)]
(iii) $\angle COB$ and $\angle AOD$ are vertically opposite angles.
$\therefore \angle COB = \angle AOD = 138^\circ$ [from (i)]

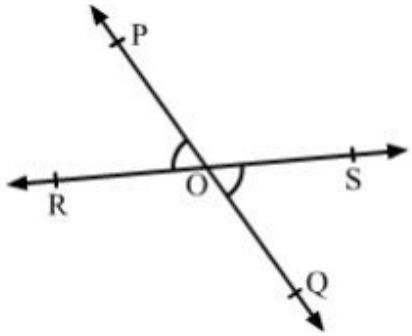
Q10

Answer :

(i) $\angle POS + \angle POR = 180^\circ$ (linear pair)
or $114^\circ + \angle POR = 180^\circ$
or $\angle POR = 180^\circ - 114^\circ = 66^\circ$

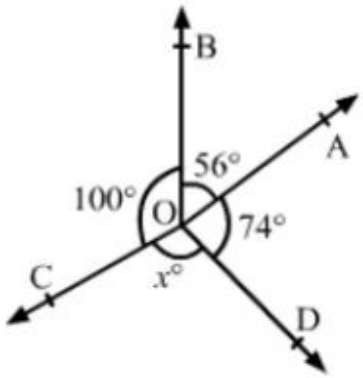
(ii) Since $\angle POS$ and $\angle QOR$ are vertically opposite angles, they are equal.
$\therefore \angle QOR = 114^\circ$

(iii) Since $\angle POR$ and $\angle QOS$ are vertically opposite angles, they are equal.
$\therefore \angle QOS = 66^\circ$



Q11

Answer :



Sum of all the angles around a point is 360°.

$\therefore \angle AOB + \angle BOC + \angle COD + \angle DOA = 360^\circ$
or $56^\circ + 100^\circ + x^\circ + 74^\circ = 360^\circ$ **(given)**
or $230^\circ + x^\circ = 360^\circ$
or $x^\circ = 130^\circ$
or $x = 130$

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