



Exercise 4B

Question 12:

Since $\angle COB$ and $\angle BOD$ form a linear pair

So, $\angle COB + \angle BOD = 180^\circ$

$\Rightarrow \angle BOD = 180^\circ - \angle COB \dots (1)$

Also, as $\angle COA$ and $\angle AOD$ form a linear pair.

So, $\angle COA + \angle AOD = 180^\circ$

$\Rightarrow \angle AOD = 180^\circ - \angle COA$

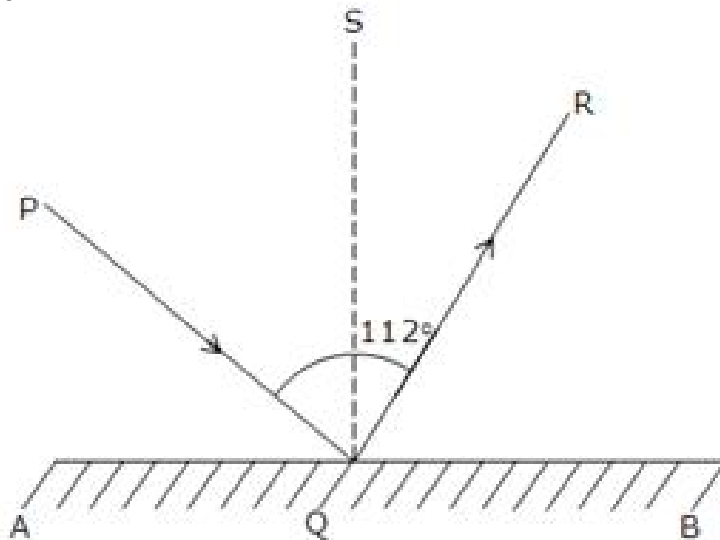
$\Rightarrow \angle AOD = 180^\circ - \angle COB \dots (2)$

[Since, OC is the bisector of $\angle AOB$, $\angle BOC = \angle AOC$]

From (1) and (2), we get,

$\angle AOD = \angle BOD$ (Proved)

Question 13:



Let QS be a perpendicular to AB.

Now, $\angle PQS = \angle SQR$

Because angle of incident = angle of reflection

$\Rightarrow \angle PQS = \angle SQR = 112/2 = 56^\circ$

Since QS is perpendicular to AB, $\angle PQA$ and $\angle PQS$ are complementary angles.

Thus, $\angle PQA + \angle PQS = 90^\circ$

$\Rightarrow \angle PQA + 56^\circ = 90^\circ$

$\Rightarrow \angle PQA = 90^\circ - 56^\circ = 34^\circ$

***** END *****