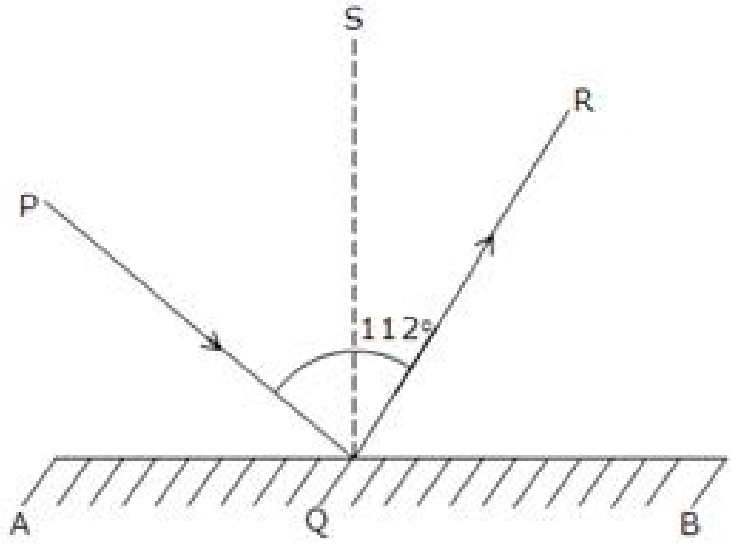
Exercise 4B

Question 12:
Since ∠COB and ∠BOD form a linear pair
So, $\angle COB + \angle BOD = 180^o$
$\Rightarrow \angle BOD = 180^o - \angle COB$ .... (1)
Also, as ∠COA and ∠AOD form a linear pair.
So, $\angle COA + \angle AOD = 180^o$
$\Rightarrow \angle AOD = 180^o - \angle COA$
$\Rightarrow \angle AOD = 180^o - \angle COB$ .... (2)
[Since, OC is the bisector of ∠AOB, ∠BOC = ∠AOC]
From (1) and (2), we get,
∠AOD = ∠BOD (Proved)

Question 13:



Let QS be a perpendicular to AB.
Now, ∠PQS = ∠SQR
Because angle of incident = angle of reflection
$\Rightarrow \angle PQS = \angle SQR = 112/2 = 56^o$
Since QS is perpendicular to AB, ∠PQA and ∠PQS are complementary angles.
Thus, $\angle PQA + \angle PQS = 90^o$
$\Rightarrow \angle PQA + 56^o = 90^o$
$\Rightarrow \angle PQA = 90^o - 56^o = 34^o$

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