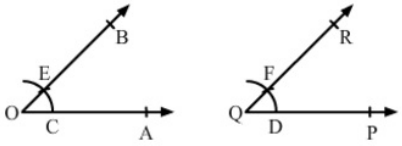
Exercise 14A

Q3

Answer :

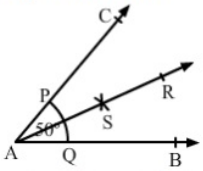
Here ∠AOB is given.
Steps for construction:
1. Draw a ray QP.
2. With O as the centre and any suitable radius, draw an arc cutting OA and OB at C and E, respectively..
3. With Q as the centre and the same radius as in step (2), draw an arc cutting QP at D.
4. With D as the centre and radius equal to CE, cut the arc through D at F.
5. Draw QF and produce it to point R.
∴ ∠PQR = ∠AOB



Q4

Answer :

Steps for construction:

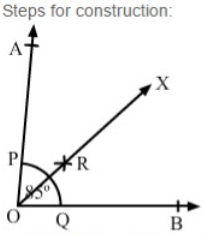


1. Draw ∠BAC = 50° with the help of protractor.
2. With A as the centre and any convenient radius, draw an arc cutting AB and AC at Q and P, respectively.
3. With P as the centre and radius more than half of PQ, draw an arc.
4. With Q as the centre and the same radius as before, draw another arc cutting the previously drawn arc at a point S.
5. Draw SA and produce it to point R.
Then, ray AR bisects ∠BAC.

Q5

Answer :

Steps for construction:



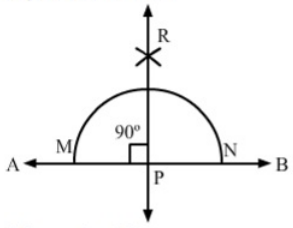
1. Draw ∠AOB = 85° with the help of a protractor.
2. With O as the centre and any convenient radius, draw an arc cutting OA and OB at P and Q, respectively.
3. With P as the centre and radius more than half of PQ, draw an arc.
4. With Q as the centre and the same radius as before, draw another arc cutting the previously drawn arc at a point R.
5. Draw RO and produce it to point X.

Then, ray OX bisects ∠AOB.

Q6

Answer :

Steps for construction:



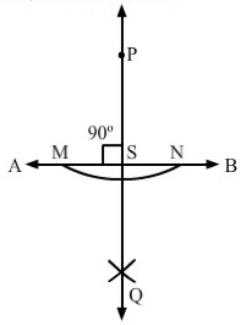
1. Draw a line AB.
2. Take a point P on line AB.
3. With P as the centre, draw an arc of any radius, which intersects line AB at M and N, respectively.
4. With M as the centre and radius more than half of MN, draw an arc.
5. With N as the centre and the same radius as in step (4), draw an arc that cuts the previously drawn arc at R.
6. Draw PR.

PR is the required line, which is perpendicular to AB.

Q7

Answer :

Steps for construction:



1. Draw a line AB.
2. Take a point P outside AB.
3. With P as the centre and a convenient radius, draw an arc intersecting AB at M and N, respectively.
4. With M as the centre and radius more than half of MN, draw an arc.
5. With N as the centre and the same radius, draw an arc cutting the previously drawn arc at Q.
6. Draw PQ meeting AB at S.

PQ is the required line that passes through P and is perpendicular to AB.

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