Work Sheet

Class: IX   Chapter:- Lines And Angles

**Q01:** The complement of an angle is 1/4 of its supplement. Find the angle.

Q02: The angles of a supplementary pair are in the ratio 3:2. Find the angles.

Q03: 4 times the complement of an angle is equal to its supplement. Find the angle.

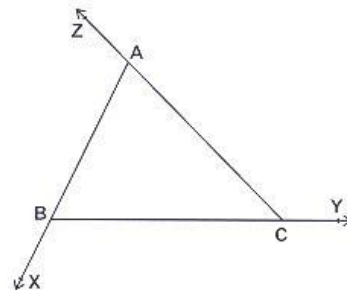**Q04:** Angles of a Linear pair are in the ratio 3:2. Find the angles.

Q05: An Exterior angle of a triangle is 108° and the interior opposite angles are in the ratio 4:5. Find the angles of the triangle.

Q06: $AB \parallel CD$. The bisectors of $\angle BPQ$ and $\angle DQP$ meet at O. Prove that $\angle POQ = 90^{\circ}$.
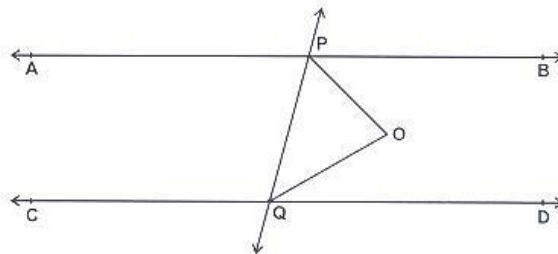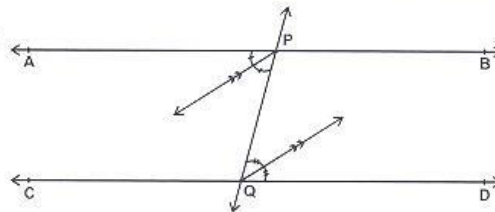
Q07: The sides of $\triangle ABC$ are produced as shown in the figure. Prove that $\angle CBX + \angle ACY + \angle CAZ = 360^{\circ}$.
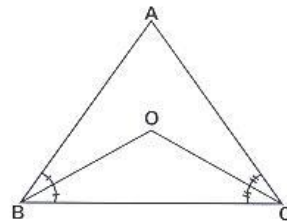   ∠BAZ

Q08: Two lines are intersected by transversal such that the bisectors of a pair of corresponding angles are equal. Prove that the lines are parallel.
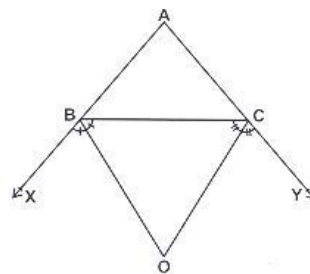
Q09: Lines AB and CD are intersected by the transversal PQ such that the bisectors of $\angle APQ$ and $\angle DQP$ are parallel. Prove that $AB \parallel CD$.
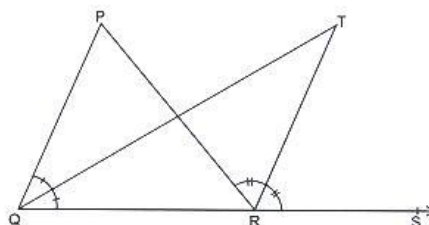
Q10: *The bisectors of ∠B and ∠C*
meet at O. Prove that ∠BOC = 90° + ½ ∠A.

Q11: *The bisectors of the exterior angles*
∠CBX and ∠BCY meet at O. Prove that
∠BOC = 90° - ½ ∠A.

Q12: *PQRS is a parallelogram. The bisectors of ∠P and ∠Q meet at O.*
Prove that ∠POQ = 90°.

Q13: *The bisectors of ∠PQR and*
∠PRS meet at O. Prove that
1}∠QTR = ½∠PQR. 2}If ∠QTR = 40°
find ∠QPR. ½ ∠QPR
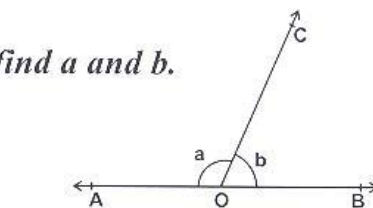
Q14: *AOB is a straight line. If a - b = 40° find a and b.*
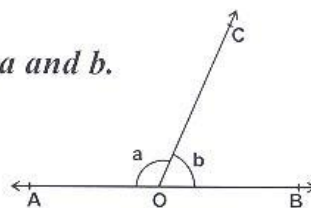
Q15: *AB‖CD. ∠APO = 60°*
∠CQO = 80°. Find reflex ∠POQ.
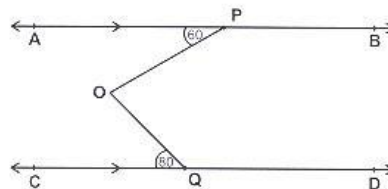
Q16: *POQ is a straight line. Find the value of x.*

The angles at O on line POQ are, from P to Q: $3x+10$, $2x$ (angle ROS region), $4x-10$, with rays R and S.
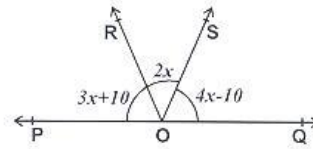
Q17: *AB∥CD, ∠APQ = x + 20 and ∠DQP = 3x - 60. Find x.*

$x+20$ at P, $3x-60$ at Q.
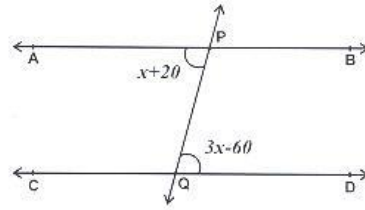
Q18: *PS is the bisector of ∠QPR. Prove that*
1} *∠QPS + ∠PSR = ∠PRS.* ∠PRT
2} *∠PQS + ∠PRS = 2∠PSR*
    ∠PRT
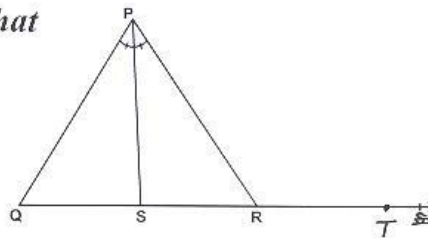
Q19: *In △ABC, 6∠A = 3∠B = 2∠C. Find the angles.*

Q20: *AOB is a straight line. If $\overrightarrow{OP}$ and $\overrightarrow{OQ}$ are bisectors of ∠AOC and ∠BOC respectively. Prove that ∠POQ = 90°.*

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