

6. Lines and Angles

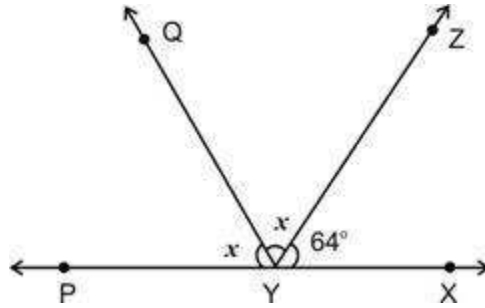
Q 1 State corresponding angles axiom.

Mark (1)

Q 2 Define collinear points.

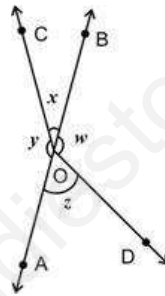
Mark (1)

Q 3 It is given that $\angle XYZ = 64^\circ$ and XY is produced to a point P. If ray YQ bisect $\angle ZYP$, find $\angle XYQ$ and reflex $\angle QYP$.



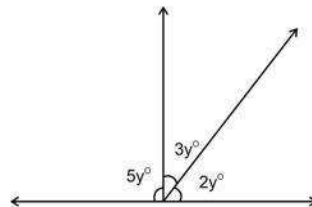
Marks (2)

Q 4 In figure if $x + y = w + z$, then prove that AOB is a line.



Marks (2)

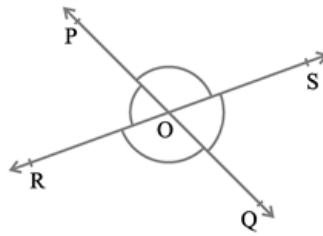
Q 5 In the figure, find the value of y° .



Marks (2)

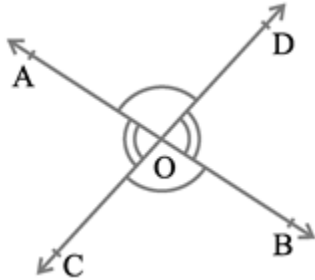
Q 6 In Fig, lines PQ and RS intersect each other at point O.

If $\angle POR : \angle ROQ = 5 : 7$, find all the angles.



Marks (2)

Q 7 Find out the two pairs of adjacent angles in the fig. given below:

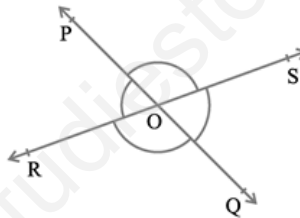


Marks (2)

Q 8 The measure of an angle is twice the measure of its supplementary angle. Find its measure.

Marks (2)

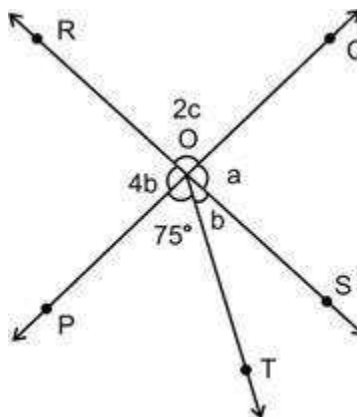
Q 9 In Fig, lines PQ and RS intersect each other at point O. If $\angle POR : \angle ROQ = 2 : 3$, find angle POR and angle ROQ.



Marks (3)

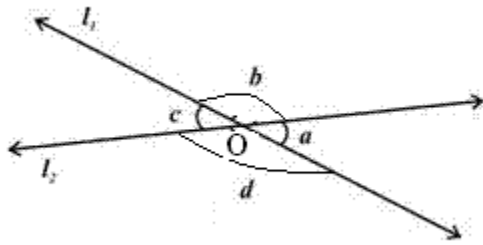
Q 10 In Fig. two straight lines PQ and RS intersect each other at O. If

$\angle POT = 75^\circ$, find the values of a, b and c.



Marks (3)

Q 11 In figure, lines l_1 and l_2 intersect at O forming angles as shown in the figure. If $a = 35^\circ$ Find the value of b, c and d.

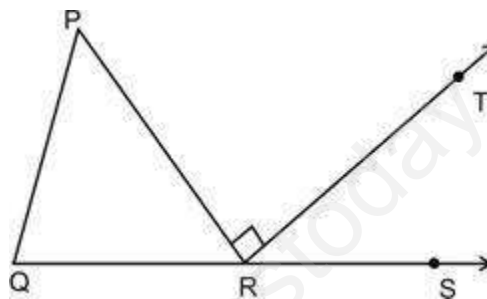


Marks (3)

Q 12 If the angles of a triangle are in the ratio 2 : 3 : 4, find all the three angles.

Marks (3)

Q 13 In the figure, side QR of $\triangle PQR$ has been produced to S, if $\angle P : \angle Q : \angle R = 3 : 2 : 1$ and $RT \perp PR$, then $\angle TRS$ will be



Marks (3)

Q 14 Find the correct figure having:

- a) adjacent angles but not linear pair,
- b) vertically opposite angles,
- c) linear pair and adjacent angles only

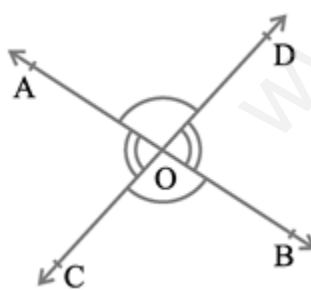


Fig-1

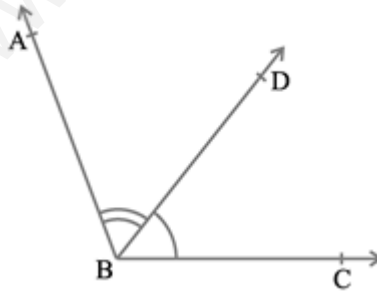


Fig-2

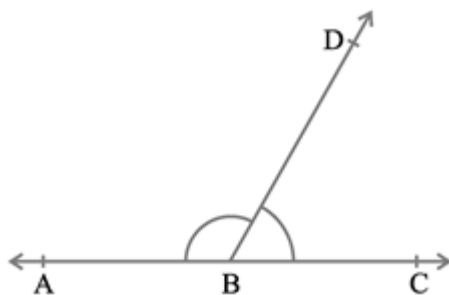


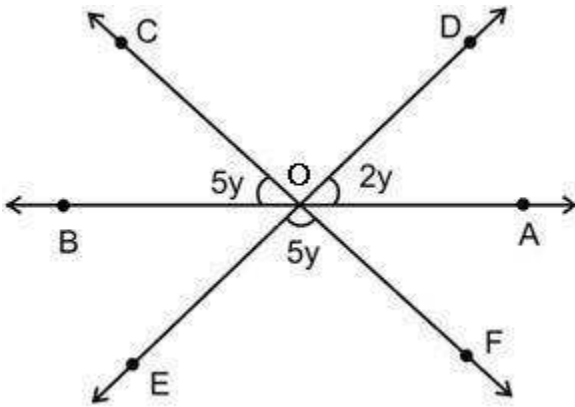
Fig-3

Marks (3)

Q 15 Two supplementary angles are in the ratio 4:5. Find the angles.

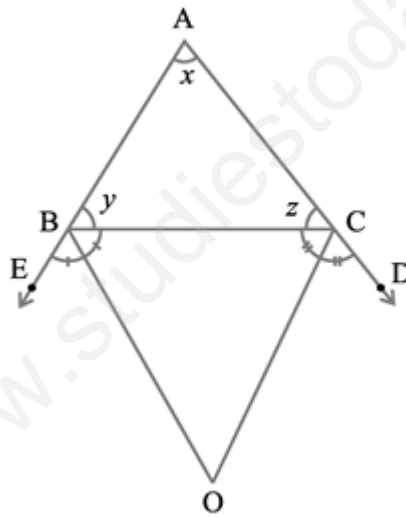
Marks (3)

Q 16 In figure, determine the value of y.



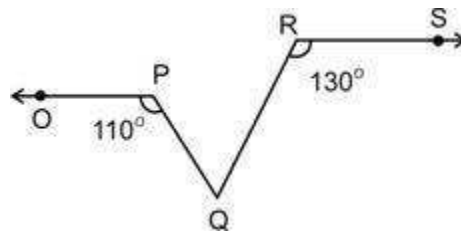
Marks (3)

Q 17 In figure the sides AB and AC of $\triangle ABC$ are produced to points E and D respectively. If bisectors BO and CO of $\angle CBE$ and $\angle BCD$ respectively meet at point O, then prove that $\angle BOC = 90^\circ - \frac{1}{2}\angle BAC$



Marks (4)

Q 18 In figure $OP \parallel RS$. Determine $\angle PQR$.

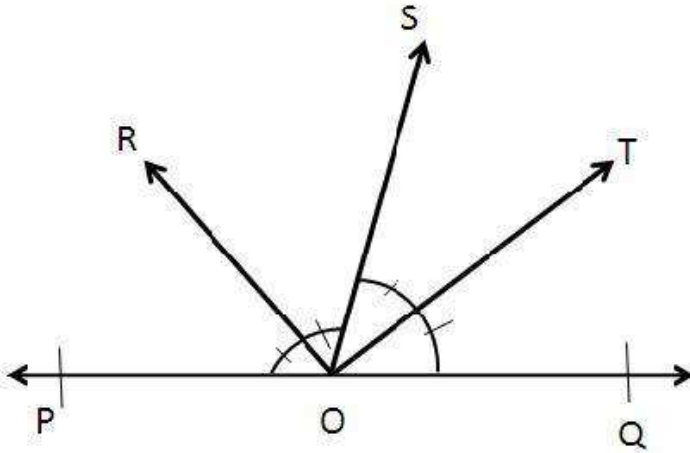


Marks (4)

Q 19 ABCDE is a regular pentagon and bisector of $\angle BAE$ meets CD in M. If bisector of $\angle BCD$ meets AM at P find $\angle CPM$.

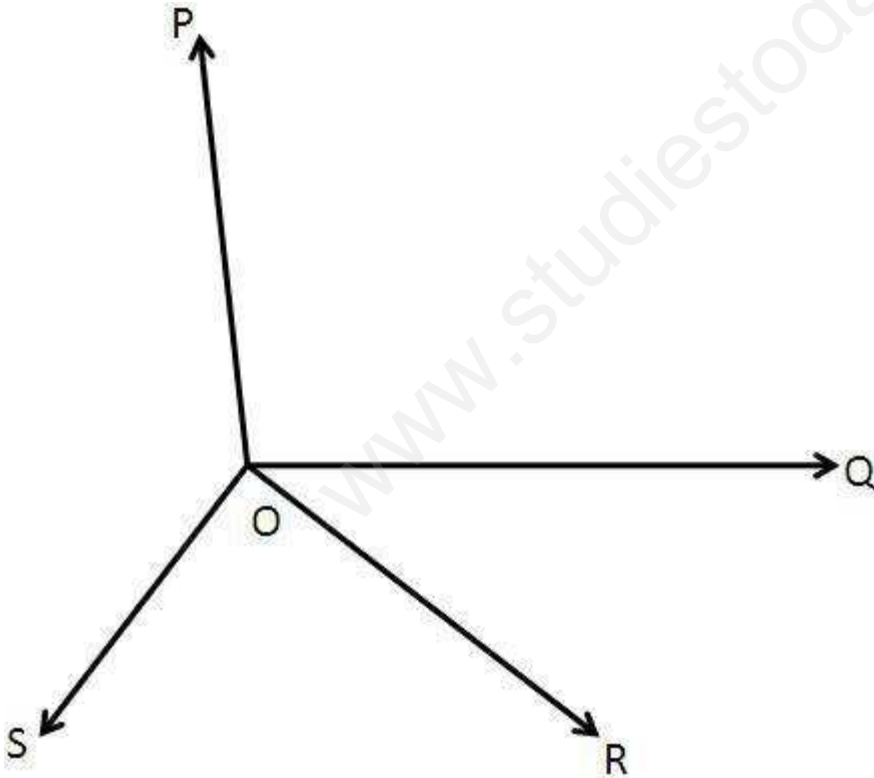
Marks (4)

Q 20 In figure, ray OS stands on a line POQ. Ray OR and Ray OT are angle bisectors of $\angle POS$ and $\angle SOQ$, respectively. Find $\angle ROT$.



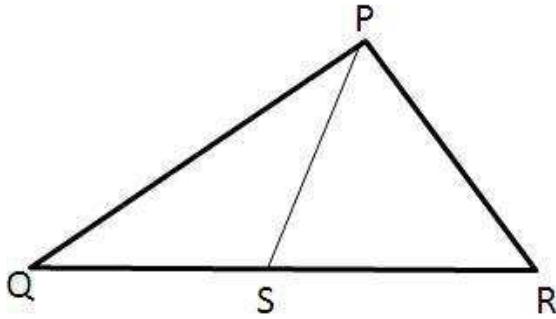
Marks (4)

Q 21 In Figure, OP, OQ, OR and OS are four rays. Prove that $\angle POQ + \angle QOR + \angle SOR + \angle POS = 360^\circ$.



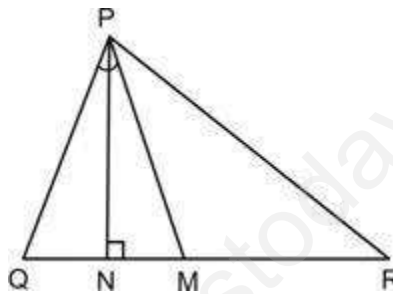
Marks (4)

Q 22 S is a point on side QR of $\triangle PQR$ such that $PS=PR$. Show that $PQ>PS$.



Marks (4)

Q 23 In the given figure $\angle Q > \angle R$ and M is a point QR such that PM is the bisector of angle P. If the perpendicular from P on QR meets QR at N, then prove that $\angle MPN = (1/2)(\angle Q - \angle R)$



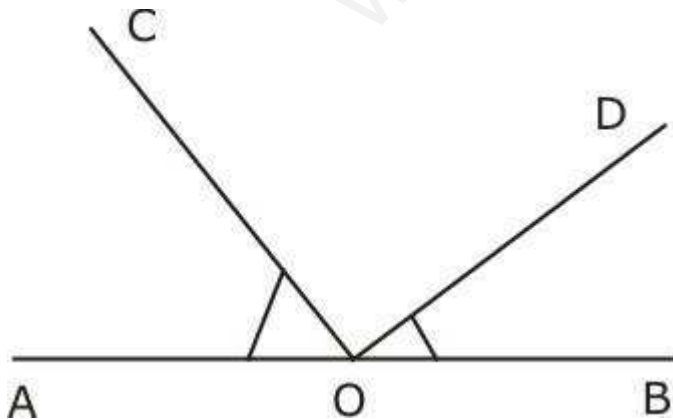
Marks (4)

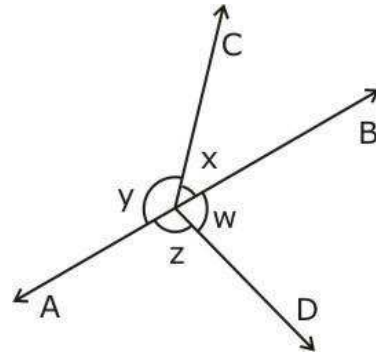
Most Important Questions

Q 1 Find an angle which is $1/3^{\text{rd}}$ its supplement.

Q 2 Two supplementary angles differ by 34° . Find the angles.

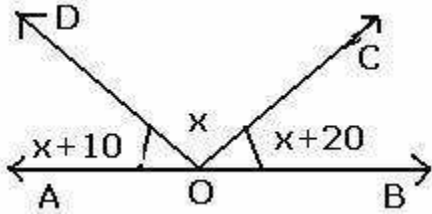
Q 3 In the given figure, OA and OB are the opposite rays and $\angle AOC + \angle BOD = 90^\circ$. Find $\angle COD$.



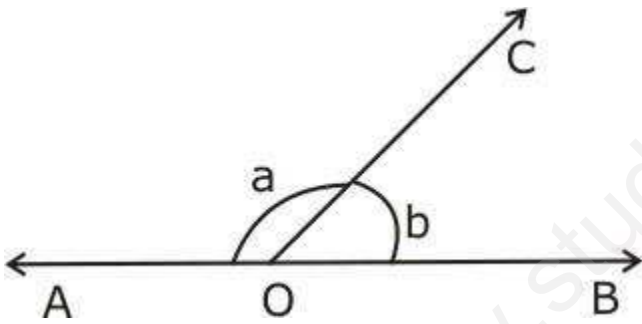


Q 4 In the given figure, if $x + y = w + z$, then prove that AOB is a line.

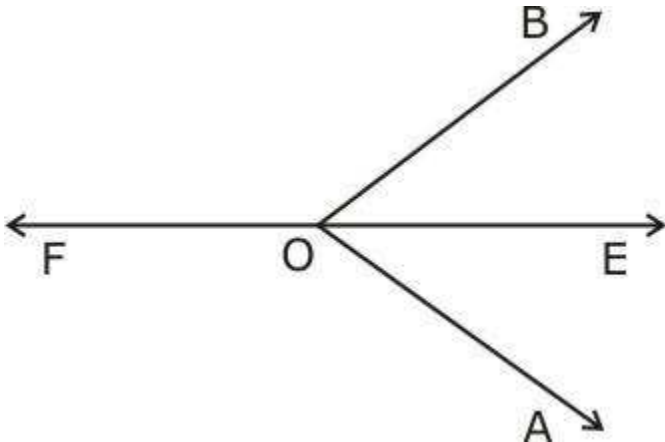
Q 5 In the given figure, find the value of x

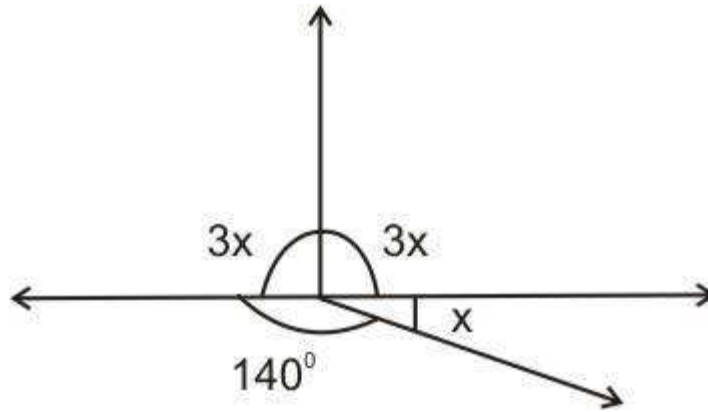


Q 6 In the given figure if $a - 2b = 30$, find the value of a and b . Also given that $\angle AOC$ and $\angle BOC$ form a linear pair.



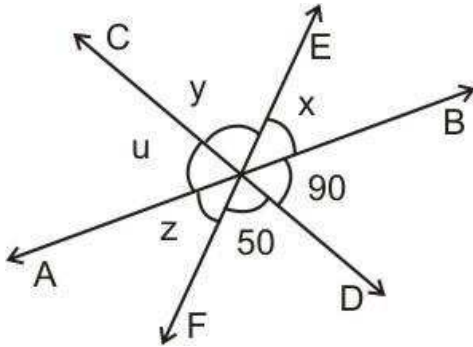
Q 7 Ray OE bisects $\angle AOB$ and OF is a ray opposite to OE. Show that $\angle FOB = \angle FOA$



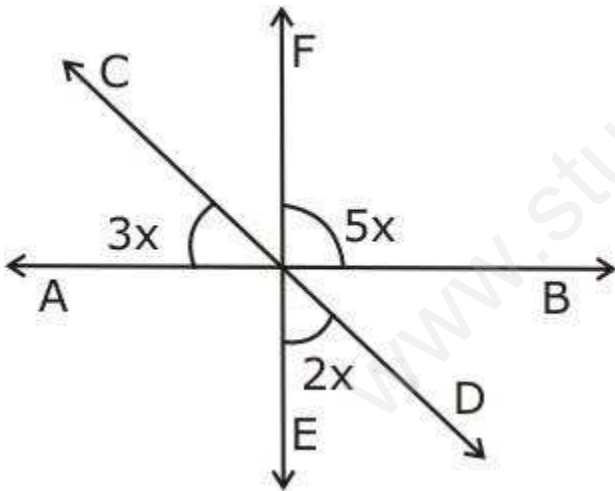


Q 8 In the given figure, find the value of x

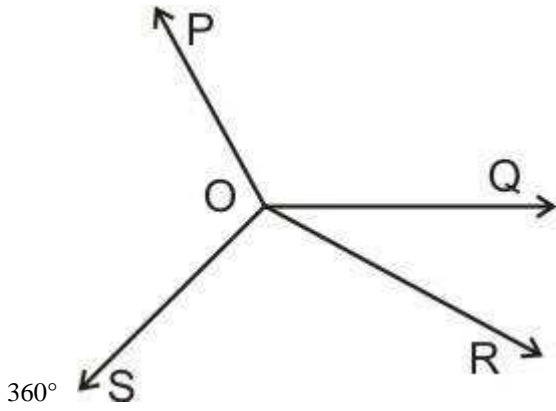
Q 9 Three lines intersect at a point 'o', forming angles as shown in the figure. Find the value of x, y, z and u .



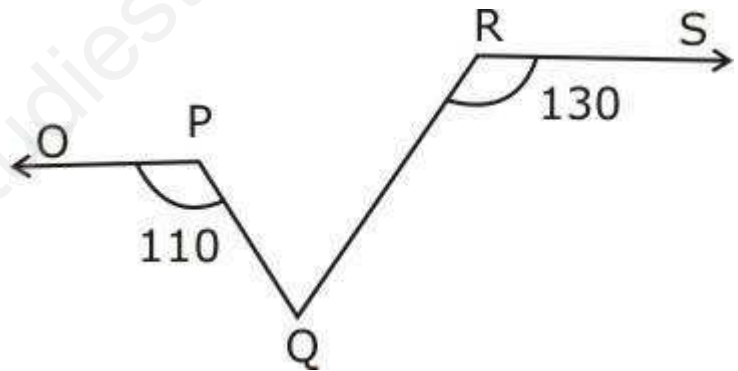
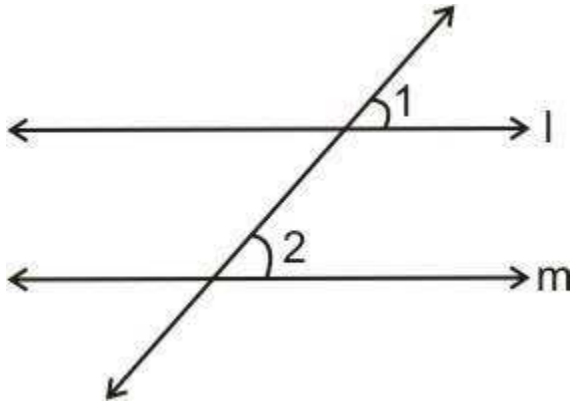
Q 10 In the given figure find the value of x , hence find all the three angles.



Q 11 In the given figure find the value of OP, OQ, OR and OS be any four rays, Prove that $\angle POQ + \angle QOR + \angle SOR + \angle POS =$

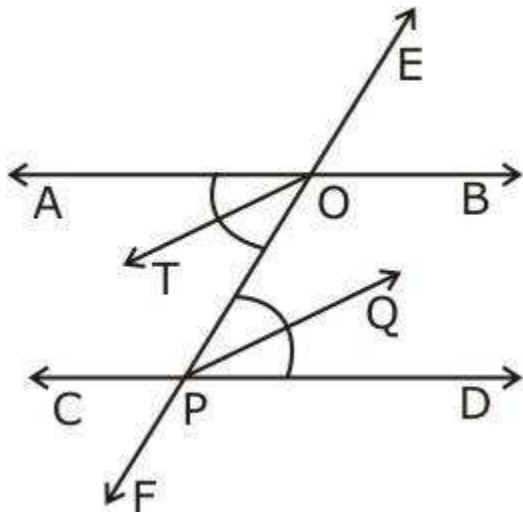


Q 12 In the given figure $\angle 1 = 60$ and $\angle 2 = (2/3)^{\text{rd}}$ of a right angle. Prove that the line $l \parallel m$.



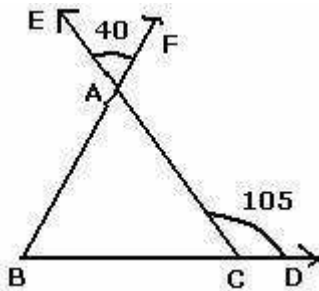
Q 13 In the given figure, $OP \parallel RS$. Determine $\angle PQR$.

Q 14 If two parallel are intersected by a transversal, the bisectors of any pair of alternate interior angles are parallel.

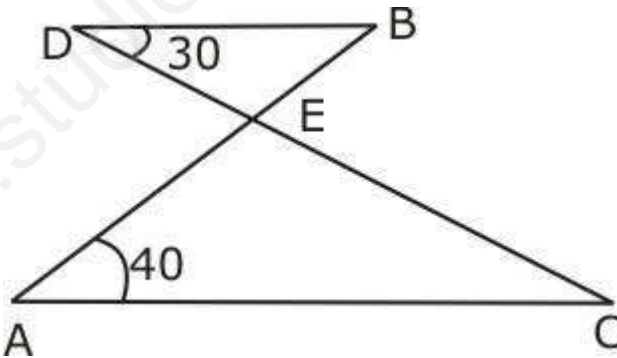
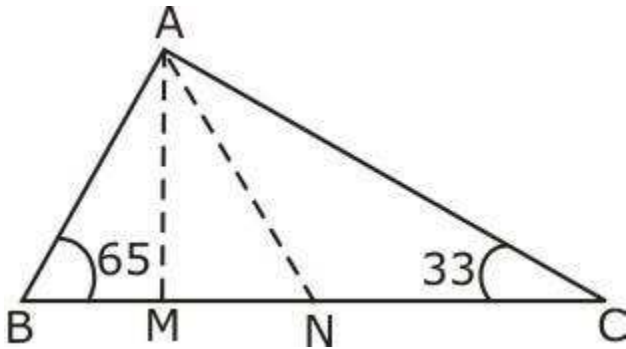


Q 15 The side BC of a $\triangle ABC$ is produced, such that D is on ray BC. The bisector of $\angle A$ meets BC in L as shown in the given figure, Prove that $\angle ABC + \angle ACD = 2\angle ALC$

Q 16 In the given figure, find all the angles of $\triangle ABC$

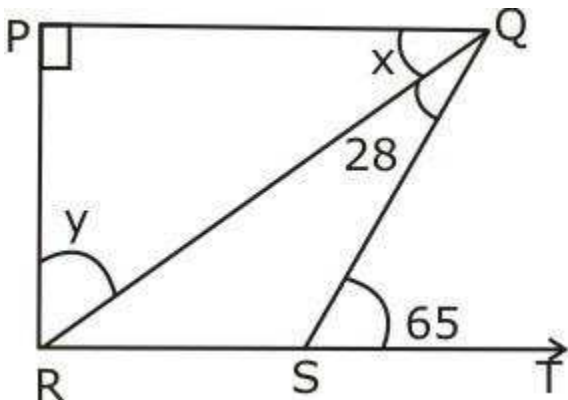


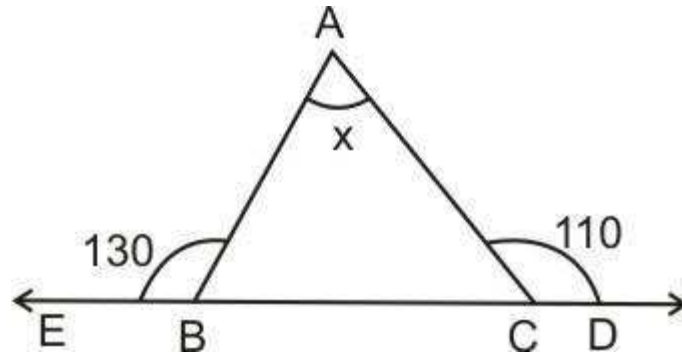
Q 17 In the given figure $AM \perp BC$ and AN is the bisector of $\angle A$. If $\angle B = 65^\circ$ and $\angle C = 33^\circ$, find $\angle MAN$.



Q 18 In the given figure $AB \parallel DE$, find $\angle AED$.

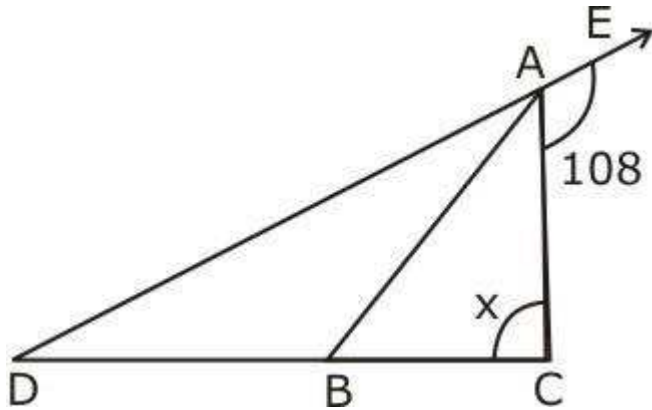
Q 19 In the given figure, $PQ \perp PS$, $PQ \parallel SR$, $\angle SQR = 28^\circ$ and $\angle QRT = 65^\circ$, then find the values of x and y.





Q 20 Find the value of x in the given figure,

Q 21 In the given figure AB divides $\angle DAC$ in the ratio $1 : 3$ and $AB = DB$. Determine the value of x .



Q 22 In the given figure, find the value of x .

