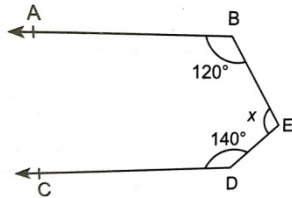


**CLASS-IX MATHEMATICS ASSIGNMENT**

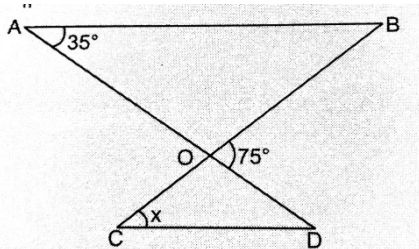
**CHAPTER – 6 LINES AND ANGLES**

**SECTION-A**

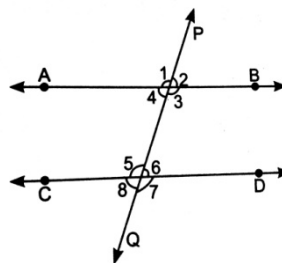
1. In the given figure,  $AB \parallel CD$ . Find the value of  $x$ .



2. In the given figure, find the value of  $x$  if  $AB \parallel CD$ .

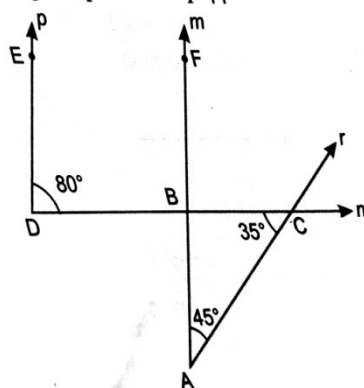


3. An angle is  $30^\circ$  more than one-half of its complement. Find the angle in degrees.
4. Ray  $OP$  bisects  $\angle AOB$  and  $OQ$  is the ray opposite to  $OP$ . Show that  $\angle QOB = \angle QOA$ .
5. In the given figure, If  $AB$  is parallel to  $CD$ ,  $\angle 2 = 120^\circ + x$  and  $\angle 6 = 6x$ . Find the measure of  $\angle 2$  and  $\angle 6$ .

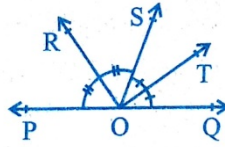


**SECTION-B**

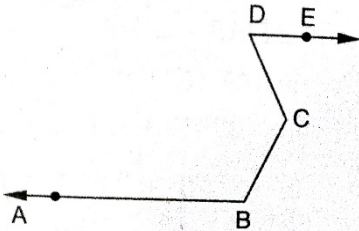
6. In the given figure, prove that  $p \parallel m$ .



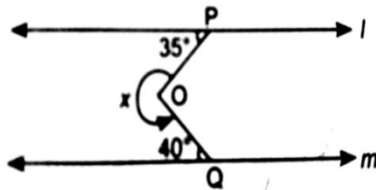
7. In the given figure ray OS stands on a line POQ. Ray OR and ray OT are angle bisector of  $\angle POS$  and  $\angle SOQ$ , respectively. If  $\angle POS = x$ , find  $\angle ROT$ .



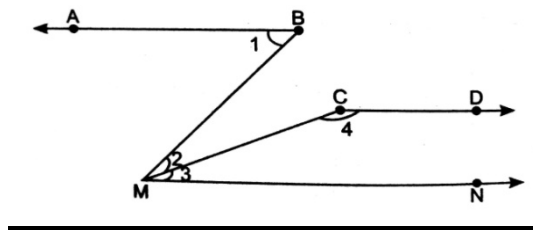
8. In the given figure, AB is parallel to DE. Prove that  $\angle ABC + \angle BCD = 180^\circ + \angle CDE$ .



9. In the given figure,  $l$  is parallel to  $m$ , find the value of  $x$ .

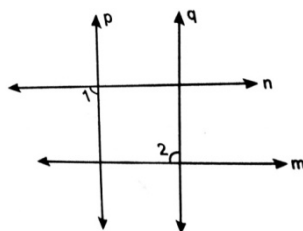


10. In the given figure,  $\angle 1 = 55^\circ$ ,  $\angle 2 = 20^\circ$ ,  $\angle 3 = 35^\circ$  and  $\angle 4 = 145^\circ$ . Prove that  $AB \parallel CD$ .

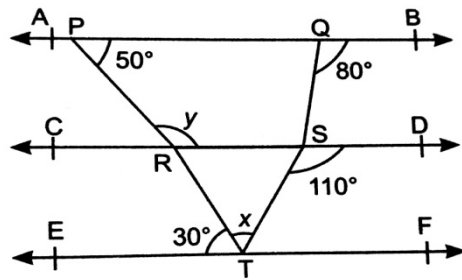


### SECTION-C

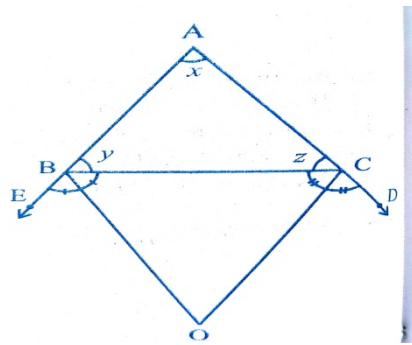
11. In the given figure,  $n \parallel m$  and  $p \parallel q$ .  $\angle 1 = 75^\circ$ , prove that  $\angle 2 = \angle 1 + \frac{1}{3}$  of a right angle.



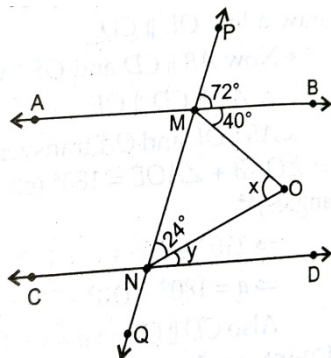
12. In the given figure ,  $AB \parallel CD \parallel EF$ . Find the value of  $(y + x) : (y - x)$



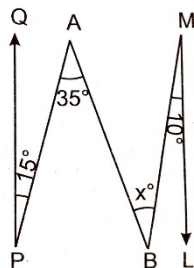
13. In the given figure , the sides  $AB$  and  $AC$  of  $\triangle ABC$  are produced to points  $E$  and  $D$  respectively. If bisectors  $BO$  and  $CO$  of  $\angle CBE$  and  $\angle BCD$  respectively meet at point  $O$ , then prove that  $\angle BOC = 90^\circ - \frac{1}{2}\angle BAC$



14. In the given  $AB \parallel CD$  and  $PQ$  is a transversal . Find the value of  $x$  and  $y$ .



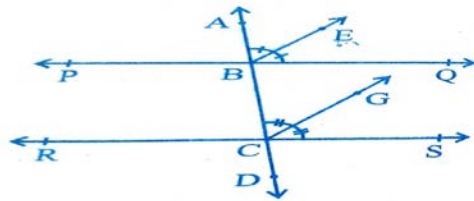
15. In the following figure,  $QP \parallel ML$  and the other angles are shown. Find the



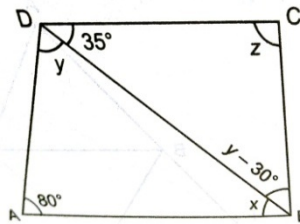
value of  $x$ .

**SECTION-D**

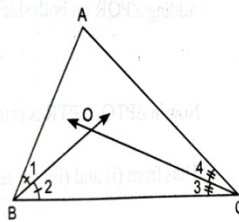
16. If a transversal intersect two lines such that bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.



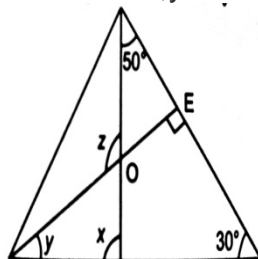
17. In the given figure  $AB \parallel DC$ . Find the values of  $x, y$  and  $z$ .



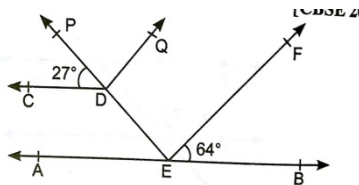
18. In  $\triangle ABC$ , the bisector of  $\angle B$  and  $\angle C$  meet at  $O$ . Prove that  $\angle BOC = 90^\circ + \frac{\angle A}{2}$



19. Find the value of  $x, y$  and  $z$  in the adjoining figure.



20. In the given figure,  $EF \parallel DQ$  and  $AB \parallel CD$ . If  $\angle FEB = 64^\circ$ ,  $\angle PDC = 27^\circ$ , then find  $\angle PDQ, \angle AED$  and  $\angle DEF$ .



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