CLASS: <u>IX</u>   SUBJECT: <u>Mathematics</u>   DATE: <u>20/05/2025</u>
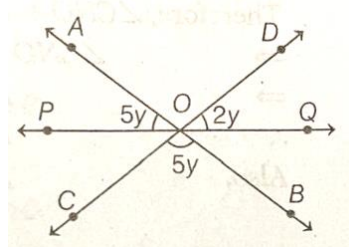
<u>LESSON-6   Lines & Angles</u>

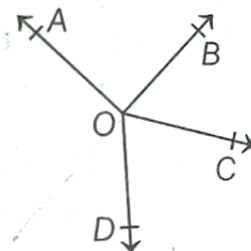1) Prove that ' If two lines intersect each other the vertically opposite angles are equal'.

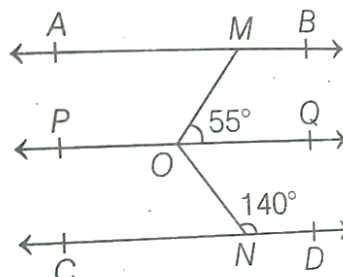2) If two lines AB and CD intersect at O , find the values of x, y and z.
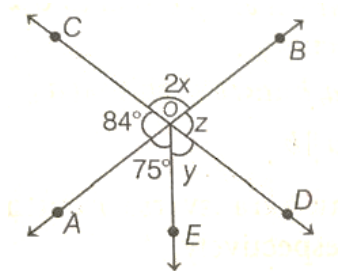
3) AB , CD and PQ are intersecting lines and $\llcorner POA = 5y$, $\llcorner QOD = 2y$ and $\llcorner BOC = 5y$ then find the value of y.
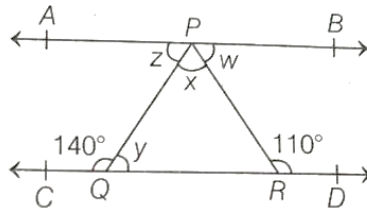

4) If OA , OB , OC , OD are four rays , Prove that
$\llcorner AOB + \llcorner BOC + \llcorner COD + \llcorner AOD = 360°$.

5) If AB ∥ PQ and PQ ∥ CD such that $\llcorner MOQ = 55°$ and $\llcorner OND = 140°$, Find $\llcorner OMB$, $\llcorner CNO$ and $\llcorner NOQ$.

6) If AB ‖ CD and ∟PQC = 140° , find x , y , z & w.

7) If ∟PQR = ∟PRQ = 75° then prove that ∟PQS = ∟PRT. Also find ∟PQS.
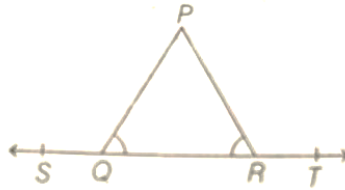
8) In the figure find ∟TRS , ∟TRU and ∟PRQ.
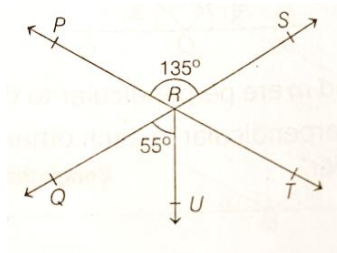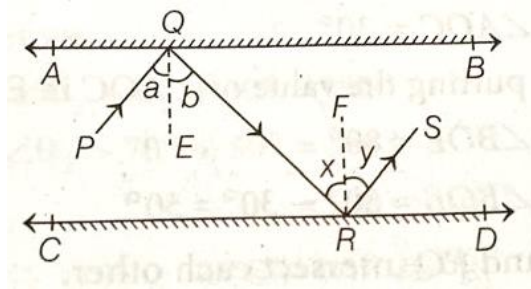

9) In the given figure find 'm' and 'n' such that m = 2n.
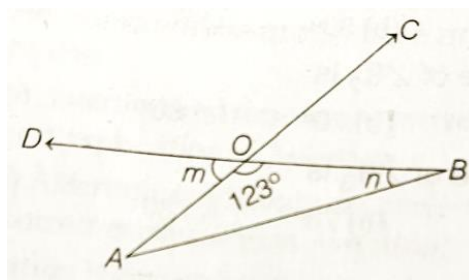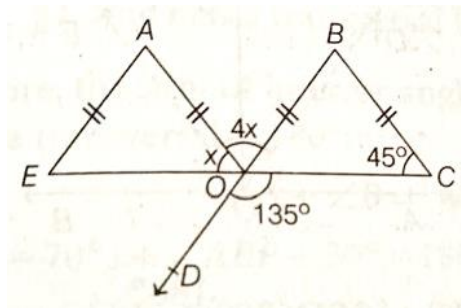

10) If PQ ‖ RC , RC ‖ TU and y:z = 7:13 , find the value of x.
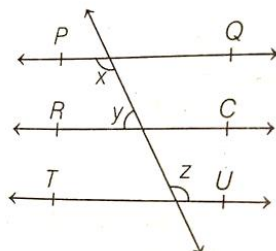
11) AB and CD are two mirrors placed parallel to each other. An incident ray PQ strikes the mirror AB at Q , the reflected ray moves along the path QR and strikes the mirror CD at R and again reflects back along RS. Prove that PQ ∥ RS. If a = 30° , find the value of y.

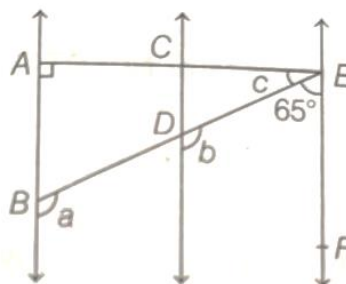12) In the figure AE = AO and BO = BC and $\llcorner COD = 135°$. Find $\llcorner BOC$, $\llcorner AOE$, $\llcorner AOB$ and $\llcorner AEO$.

13) If l ∥ m and if $\llcorner 1 = 75°$ then find the measure of $\llcorner 3$, $\llcorner 4$, $\llcorner 5$ & $\llcorner 8$.
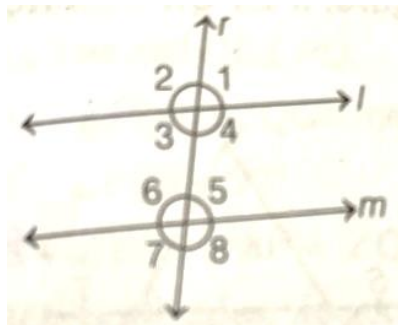
14) If AB ∥ CD and CD ∥ EF and also EA ⊥ AB and $\llcorner BEF = 65°$ then find a , b and c.

15) If AB and PQ intersect at O and ∟AOQ = 45° , a:b = 8:7 then find c.
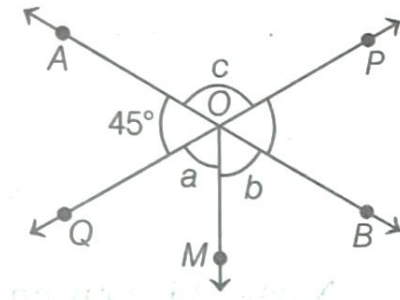
ANSWERS

2) 48° , 21° , 84°

3) 15°

5) 125° , 40° ,40°

6) 70° ,40° ,40° ,70°

7) 105°

8) 45° , 80° , 45°

9) 57° , 28.5°

10) 117°

11) 30°

12) 45° , 27° , 108° , 27°

13) 75° , 105° , 75° , 105°

14) 115° , 115° , 25°

15) 135°