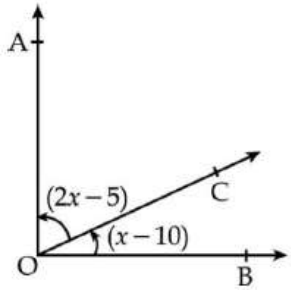
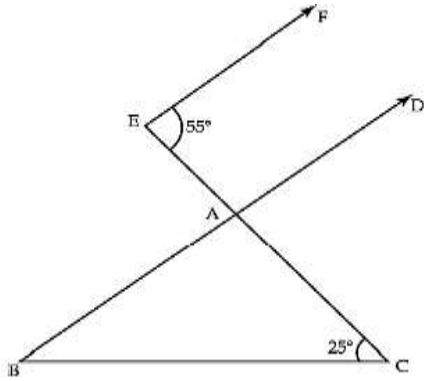
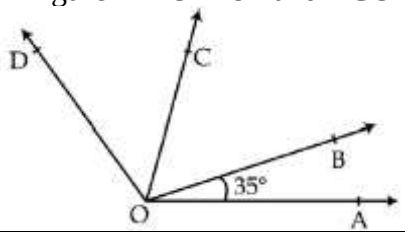
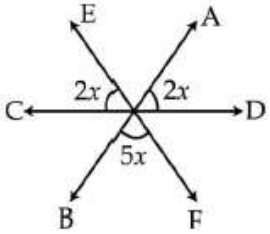
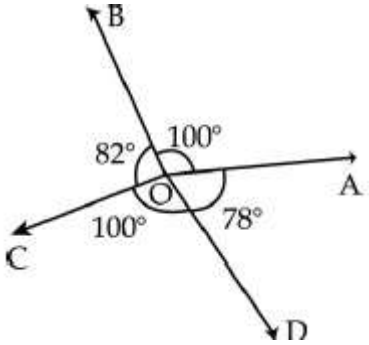
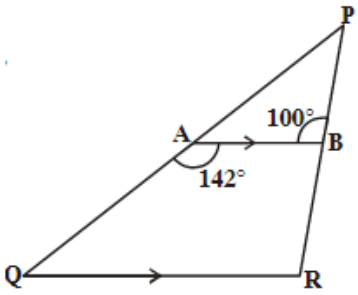
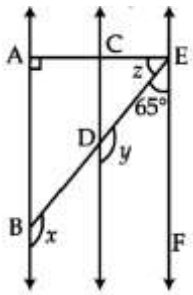
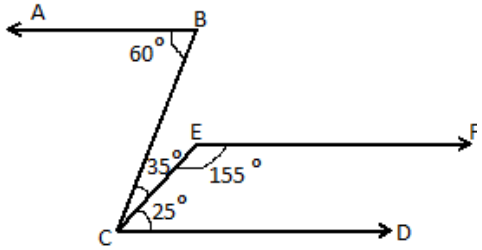
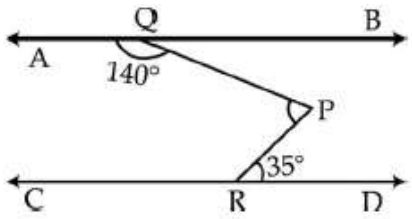
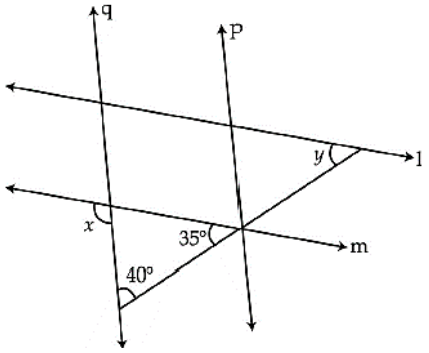
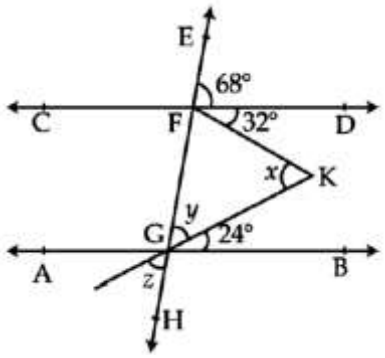
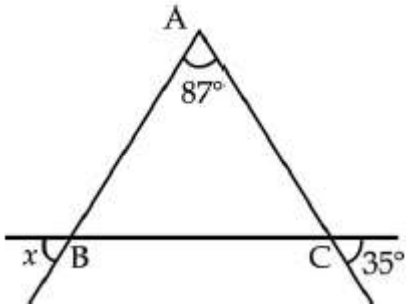
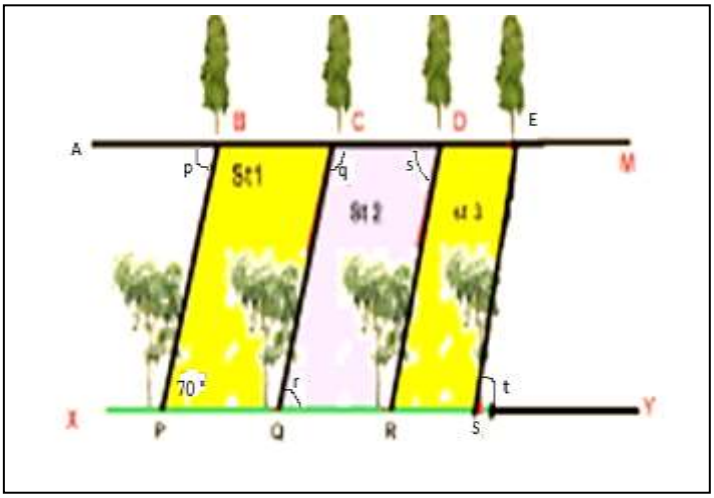
Department of Mathematics	**INDIAN SCHOOL AL WADI AL KABIR** Class IX, Mathematics ***Worksheet-Lines and Angles(DTQ)*** **13/08/2024**

Q. No.	Questions of 2 marks each
1.	In figure AO⊥OB. Find ∠AOC and ∠BOC. 
2.	In the given figure BAD ‖ EF, ∠AEF = 55º and ∠ACB = 25º. Find ∠ABC. 
3.	In figure ∠ DOB=87^{0}and ∠COA=82^0. If ∠ BOA=35^0 then find ∠COB and ∠COD. 
4.	In the given figure, AB, CD and EF are three lines concurrent at O. Find the value of *x*. 
5.	Let OA, OB, OC and OD are rays in the anti clockwise direction, such that:

	∠AOB = ∠COD =100^0, ∠BOC=82^0, ∠AOD=78^0. Is it true that AOC and BOD are straight lines? Justify your answer. 
	Questions of 2 marks each
6.	In the adjacent figure, AB || QR, ∠BAQ = 142^0 and ∠ABP = 100^0. Find (i) ∠APB (ii) ∠AQR and (iii) ∠QRP. 
7.	In the given figure, AB ‖ CD and CD ‖ EF. Also, EA ⊥ AB and ∠ BEF = 65°. Find the values of x, y and z. (x =115º,y =115º, z =25º) 
8.	In the given figure show that AB || EF. 

9.	In the given figure, AB ∥ CD, ∠AQP=140^0 ∠PRD=35^0. Find ∠ QPR and reflex ∠ QPR. 
10.	In the figure, find *x* and *y* if *l* ∥ m, p ∥ q. 
	Questions of 5 marks each
11.	In figure if AB ∥ CD, then find the values of x, y and z. 
12.	If two lines intersect each other, then the vertically opposite angles so formed are equal. Prove it. Using above, find the value of *x* in the given figure: 

13.	If a transversal intersects two lines such that the bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.
	Case Study based
14.	There are two parallel roads AM and XY in New Delhi. Due to increasing pollution, MCD planned to get trees planted on these roads. On the road AM, plants of Ashoka were planted by one company. While on the road XY mango trees were planted by another company. Between these roads three streets parallel to each other St 1, St 2 and St 3 were situated. During the survey, BPQ was measured to be 70° and the other angles p, q, r, s and t were also measured.  Based on the above situation, answer the following: (i) Find the supplement of p. (ii) Find the measure of q and r. (iii) Find the measure of s and t.

Answers

Answers	**1**	65^0, 25^0	**2**	30^0	**3**	47^0, 40^0	**4**	20^0
	5	No	**6**	42^0,48^0 ,100^0	**7**	115^o,115^o, 25^o	**9**	75^0,285^0
	10	75^0,35^0	**11**	56^o,44^o, 44^o	**12**	58^o		
	14	(i)110^0 (ii)110^0, 70^0(iii)70^0, 70^0						