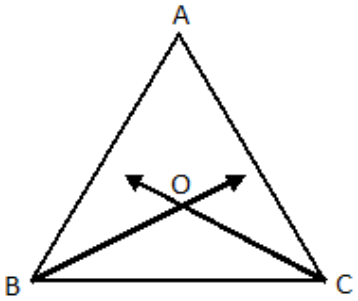
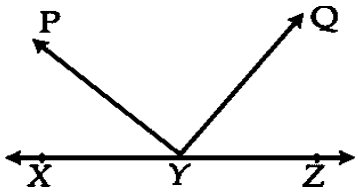
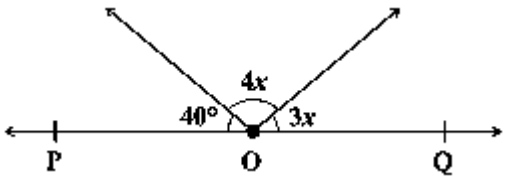
INDIAN SCHOOL AL WADI AL KABIR

Class 1X, Mathematics

Worksheet-Lines and Angles

31-05-2021

Q. No.	Questions of 1 Mark each.
1.	If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2:3, then the greater of the two angles is:
2.	In the given figure, the bisectors of ∠ABC and ∠BCA, intersect each other at point O. If ∠BOC = 100º, then ∠A is: 
3.	Find the largest angle of the triangle if its angles are in the ratio 4:5:9.
4.	In the given figure XYZ is a straight line. If ∠XYP + ∠ZYQ = 95º, find ∠PYQ. 
5.	In Fig., POQ is a line. The value of x is: 
6.	If A+B=145°and B+C=100°, find angles A, B& C.
7.	An exterior angle of a triangle is 115º and its two interior opposite angles are equal. Find the measure of each of these equal angles.

Case study-based questions are compulsory. Attempt any 4 sub parts.

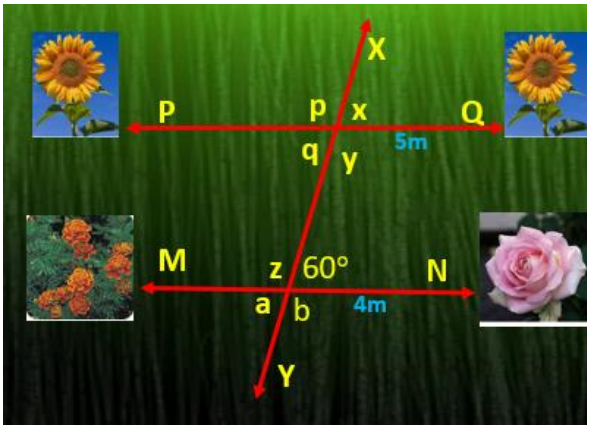
Each question carries 1 mark

8. **Case based Question**

Once 4 students from class IX F were selected for plantation of flower plants in the school garden. The selected students were Pankaj, Raju, Deepak and Renu.

As shown PQ and MN are parallel lines of the plants. Pankaj planted sunflower plant at P. Raju planted another sunflower plant at Q. Deepak planted a marigold at M.

Renu planted a rose plant at N. There is a waterline at XY which intersects PQ and MN.



a. What is the value of z?

(i)	60^0	(ii)	120^0	(iii)	180^0	(iv)	100^0

b. What is the value of x?

(i)	60^0	(ii)	120^0	(iii)	180^0	(iv)	100^0

c. What is the value of p + q?

(i)	60^0	(ii)	120^0	(iii)	180^0	(iv)	100^0

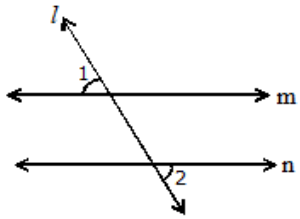
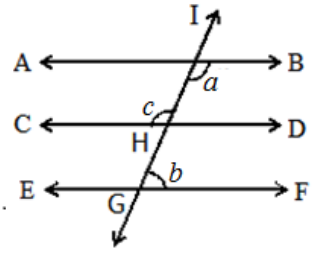
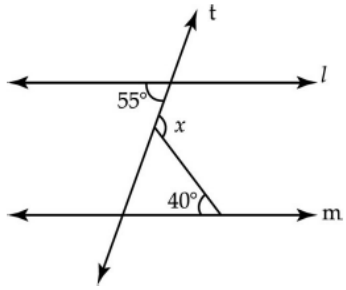
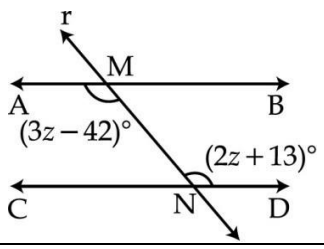
d. Which is the corresponding angle to a?

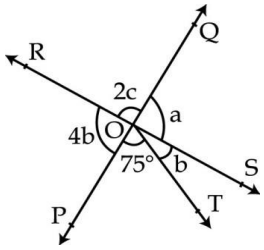
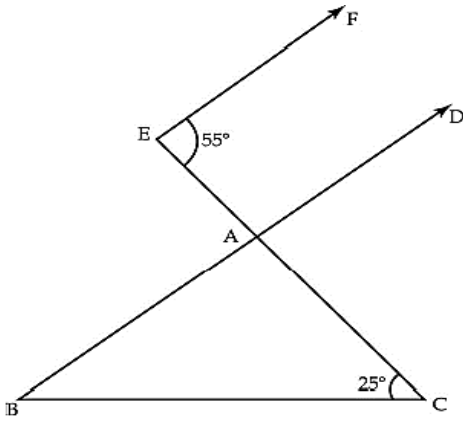
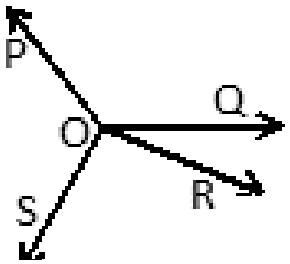
(i)	z	(ii)	p	(iii)	b	(iv)	q

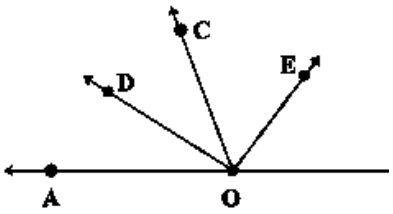
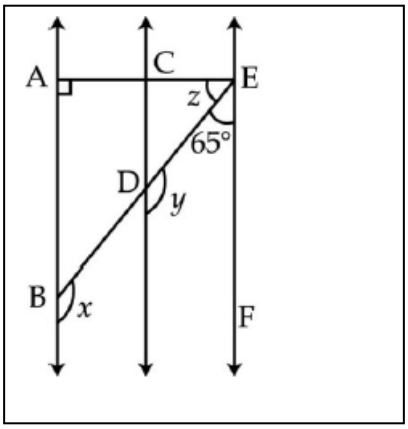
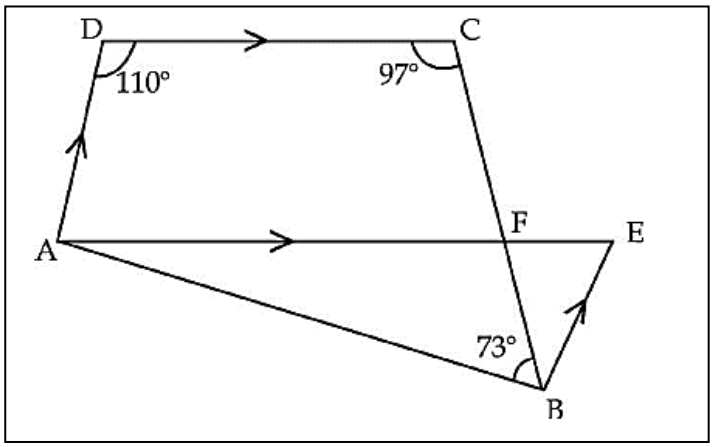
e. What is the value of $\frac{p+q+a+z}{6}$?

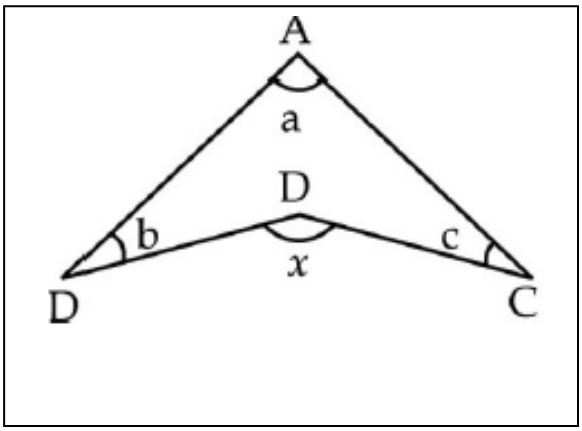
(i)	60^0	(ii)	120^0	(iii)	180^0	(iv)	100^0

Very Short Answer Questions of 2 marks each

9.	In the figure l is transversal to the lines m and n such that $\angle 1 = 60^\circ$ and $\angle 2 = \frac{2}{3}$ of a right angle. Prove that m ‖ n. 
10.	In figure, if AB ‖CD, CD ‖ EF and $a : b = 5 : 4$, find a, b and c. 
11.	In the given figure if l ‖ m, then the value of x is: 
12.	If the bisectors of a pair of alternate angles formed by a transversal with two given lines are parallel, prove that the given lines are parallel.
13.	In the figure AB ‖ CD find the value of z, ∠DNM and ∠CNM. 

Short Answer Questions of 3 marks each	
14.	In the given figure, two straight lines PQ and RS intersect each other at O. If ∠POT = 75°, find the values of a, b, c. 
15.	In the given figure BAD ‖ EF, ∠AEF = 55° and ∠ACB = 25°. Find ∠ABC. 
16.	In the figure, OP, OQ, OR and OS are four rays. Prove that ∠ POQ + ∠ QOR + ∠ SOR + ∠ POS = 360°. 

17.	In the figure, OD is the bisector of ∠AOC, OE is the bisector of ∠BOC and OD ⊥OE. Show that the points A, O and B are collinear. 
18.	In the given figure AB ‖ CD and CD ‖ EF. Also, EA⊥AB, and ∠BEF=65º. Find the values of x, y and z. 
Long Answer Questions of 5 marks each	
19.	If two parallel lines are intersected by a transversal, then prove that bisectors of the interior angles from a rectangle.
20.	In the given figure ABCD is a quadrilateral in which ∠ABC=73º, ∠C= 97º and ∠D=110º. If AE ‖ DC and BE ‖ AD and AE intersects BC at F, find the measure of ∠ EBF. 

21.	In the given figure prove that x= a + b + c. 

Answers

Answers	**1**	108°	**2**	20°	**3**	90°	**4**	85°
	5	20°	**6**	A= 80°, B= 65°, C = 35°	**7**	115°	**8**	a(ii), b(i), c(iii), d(iv), e(i)
	10	a= 100°, b= 80°, c = 100°	**11**	95°	**13**	z =55° , 123°, 57°	**14**	a= 84°, b= 21°, c = 48°
	15	30°	**18**	x= 115°, y= 115°, z = 25°	**20**	27°		