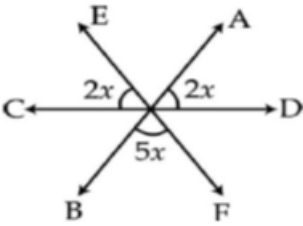
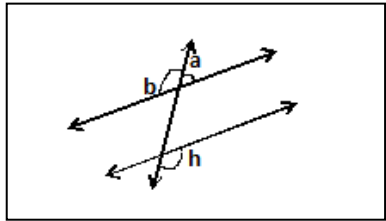
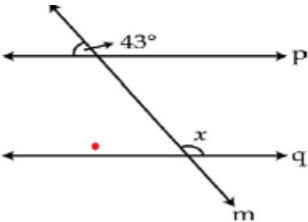
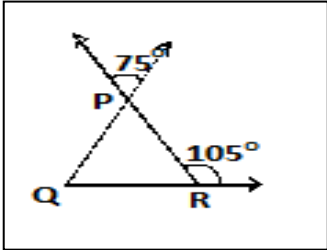
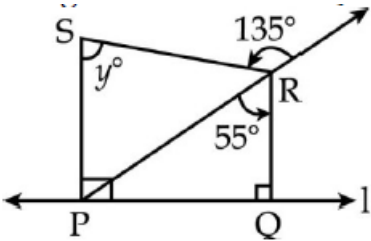
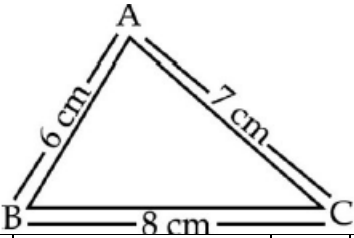


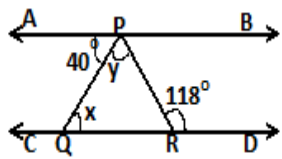
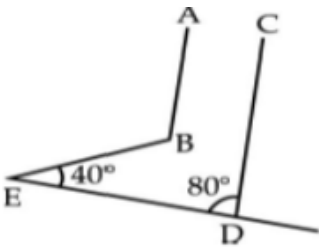
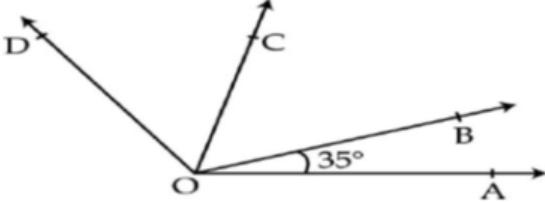
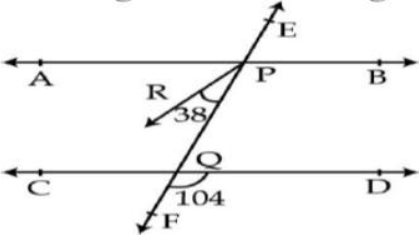
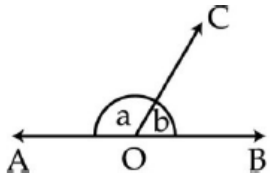
INDIAN SCHOOL AL WADI AL KABIR

Class IX, Mathematics

Worksheet-Lines and angles

Q. No.	Questions of 1 Mark each.							
1.	The angle which is half its supplement is:							
	A	60^0	B	120^0	C	110^0	D	130^0
2.	In the given figure, AB, CD and EF are 3 lines concurrent at O, the value of x is:							
								
	A	45^0	B	20^0	C	110^0	D	130^0
3.	A, B, C are the three angles of a triangle. If $A+B=145^0$ and $B+C=100^0$ then angles A, B, C are :							
	A	$80^0, 65^0, 35^0$	B	$80^0, 35^0, 65^0$	C	$65^0, 80^0, 35^0$	D	$35^0, 65^0, 80^0$
4.	An angle is 20^0 more than three times the given angle. If the two angles are supplementary the angles are:							
	A	$20^0, 160^0$	B	$60^0, 120^0$	C	$40^0, 140^0$	D	$70^0, 110^0$
5.	In fig., if $m \parallel n$ and $\angle a : \angle b = 2 : 3$, then the measure of $\angle h$ is:							
	A	45^0	B	72^0	C	36^0	D	108^0
6.	If $p \parallel q$, then x is:							
								
	A	43^0	B	137^0	C	47^0	D	24^0

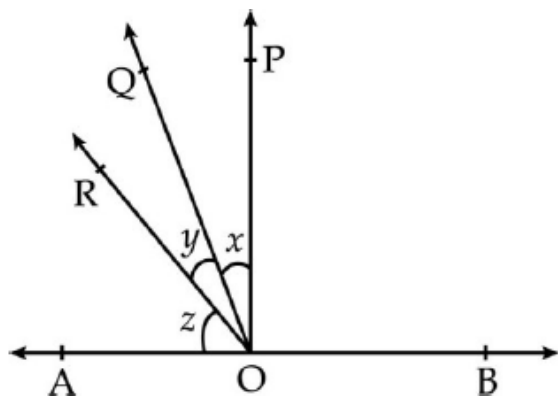
7.	Two angles $(30^\circ - a)$ and $(125^\circ + 2a)$. If each one is the supplement of the other, then the value of a is:							
	A	35°	B	30°	C	155°	D	25°
8.	In the given figure, the value of $\angle PQR$ is:							
	A	35°	B	75°	C	30°	D	105°
9.	In figure $PS \perp l$ and $RQ \perp l$, the degree measure of y is :							
								
	A	80°	B	90°	C	55°	D	135°
10.	In $\triangle ABC$:							
								
	A	$\angle C > \angle B$	B	$\angle B < \angle A$	C	$\angle C > \angle A$	D	$\angle B > \angle A$
DIRECTION: In the question number 11 and 12, a statement of assertion (A) is followed by statement of Reason (R). Choose the correct option (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A) (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A) (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.								

11.	Assertion: If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 5:4, then the greater of the two angles is 100°. Reason: If a transversal intersects two parallel lines, then the sum of the interior angles on the same side of the transversal is 90°.
12.	Assertion: Supplement of angle is one fourth of itself. The measure of the angle is 144°. Reason: Two angles are said to be supplementary if their sum of measure of angles is 180°.
Questions of 2 marks each	
13.	In figure, $AB \parallel CD$, $\angle APQ = 40^\circ$ and $\angle PRD = 118^\circ$, find x and y. 
14.	In the figure $AB \parallel CD$. If $\angle CDE = 80^\circ$ and $\angle BED = 40^\circ$, find $\angle ABE$. 
15.	In figure $\angle DOB = 87^\circ$ and $\angle COA = 82^\circ$. If $\angle BOA = 35^\circ$, find $\angle COB$ and $\angle COD$. 
16.	In the figure PR is the angle bisector of $\angle APQ$. Prove that $AB \parallel CD$ 
17.	In the given figure $\angle AOC$ and $\angle BOC$ form a line AB. If $a - b = 80^\circ$, find the values of a and b. 

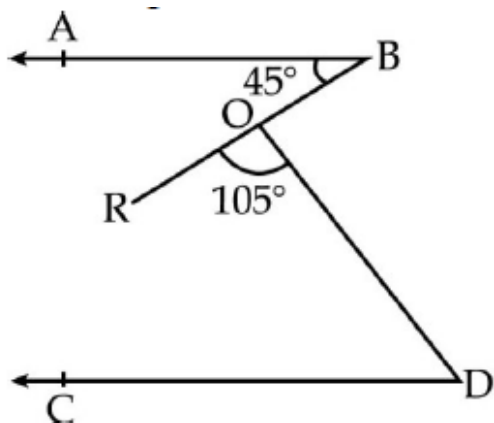
Questions of 3 marks each

18. If the bisectors of a pair of alternate angles formed by a transversal with given lines are parallel, prove that the given lines are parallel.

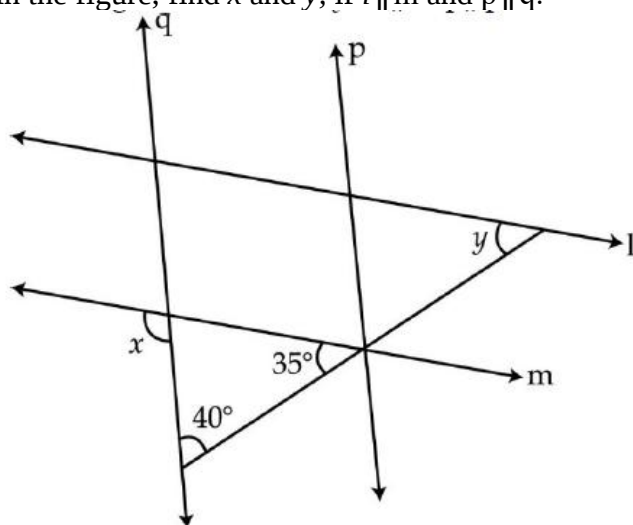
19. In the given figure $PO \perp AB$. If $x : y : z = 1 : 3 : 5$ then find the degree measure of x , y and z .



20. In the figure $AB \parallel CD$. If $\angle ABR = 45^\circ$ and $\angle ROD = 105^\circ$ then find $\angle ODC$.

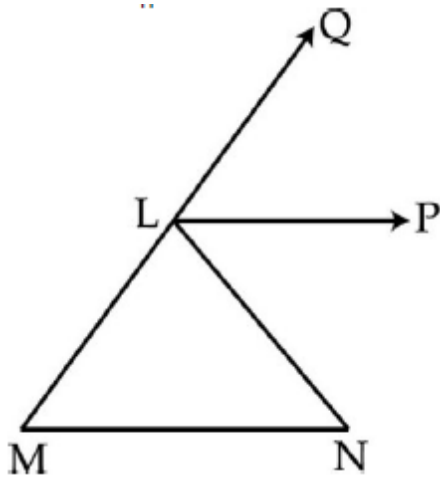


21. In the figure, find x and y , if $l \parallel m$ and $p \parallel q$.

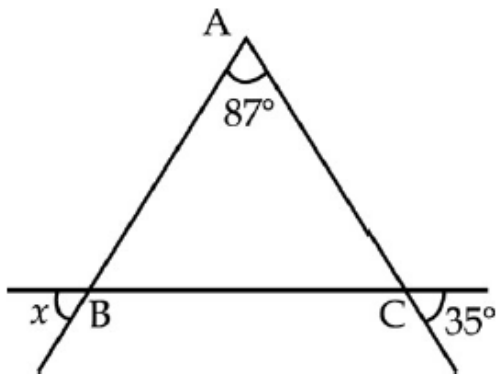


Question of 5 marks

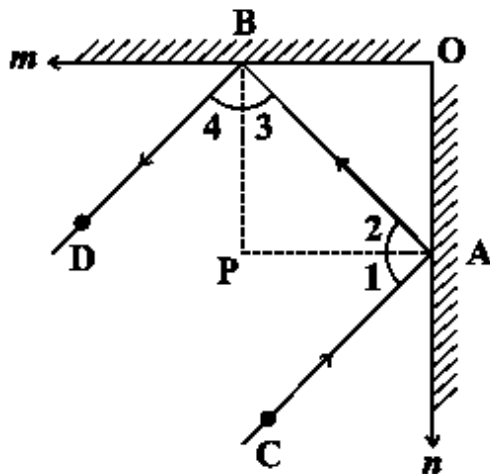
22. In the figure LMN is an isosceles Δ with $LM = LN$ and LP bisects $\angle NLQ$. Prove that $LP \parallel MN$.



23. 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 :



24. In the figure , m and n are two plane mirrors perpendicular to each other. Show that incident ray CA is parallel to reflected ray BD.



Question of 4 marks

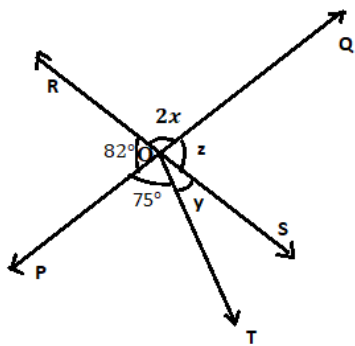
25.

Case Study Based:

An angle is formed by two rays joining at a point having one common endpoint.

There are several types of angles like an acute angle, obtuse angle, right angle etc. Further, these types of angles are divided into a pair of angles like supplementary angles, complementary angles, linear pair of angles, opposite angles, adjacent angles etc. However, position, direction, precision, and optimization are some ways in which people use angles in their daily life. Carpenters use them to measure precisely to build doors, chairs, tables, etc. Athletes use them to gauge the distances of a throw and to enhance their performance in sports.

In the given figure, two straight lines PQ and RS intersect each other at O.



Based on the above information, answer the following questions with reasons.

(i) Find the measurement of $\angle SOQ$. (1m)

(ii) Find the measurement of $\angle ROQ$. (1m)

(iii) Find the value of $y + z$.

OR

(2m)

Find the value of reflex angle $\angle ROT$.

Answers

Answers	1	A	2	B	3	A	4	C
	5	D	6	B	7	D	8	C
	9	A	10	B	11	c	12	a
	13	40 ⁰ , 78 ⁰	14	120 ⁰	15	47 ⁰ , 40 ⁰	17	130 ⁰ , 50 ⁰
	19	10 ⁰ , 30 ⁰ , 50 ⁰	20	30 ⁰	21	75 ⁰ , 35 ⁰		
	23	58 ⁰	25	(i)82 ⁰ (ii) 98 ⁰ (iii) 125 ⁰ OR 203 ⁰				