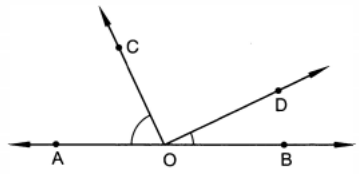
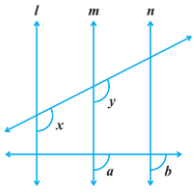
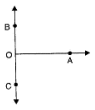
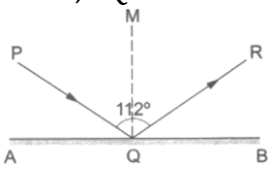
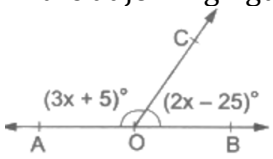
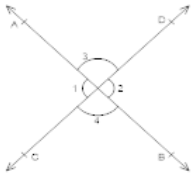
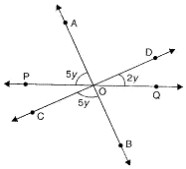
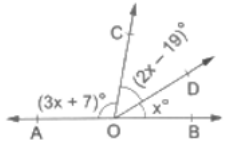
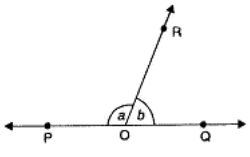
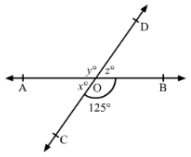
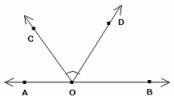
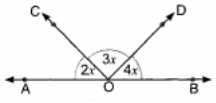
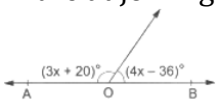
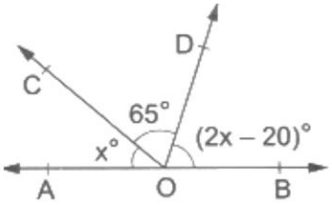
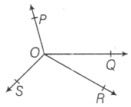
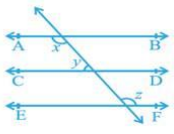
LINES AND ANGLES QUESTIONS BANK

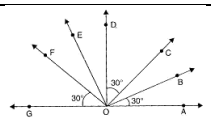
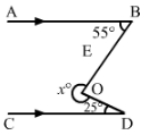
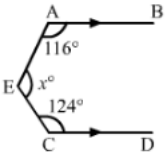
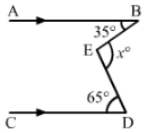
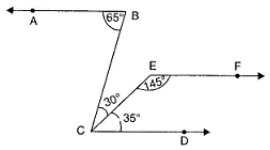
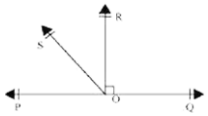
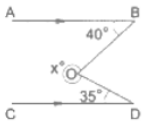
	If one of the angles of a triangle is 130°, then the angle between the bisectors of the other two angles can be a) 50° b) 155° c) 145° d) 65°	**[1]**
2	The measure of an angle is five times its complement. The angle measures a) 75° b) 65° c) 25° d) 35°	**[1]**
3	Two complementary angles are such that twice the measure of the one is equal to three times the measure of the other. The larger of the two measures. a) 54° b) 63° c) 72° d) 36°	**[1]**
4	When two straight lines intersect: 1. Adjacent angles are complementary 2. Adjacent angles are supplementary. 3. Opposite angles are equal. 4. Opposite angles are supplementary. Of these statements	**[1]**

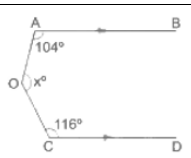
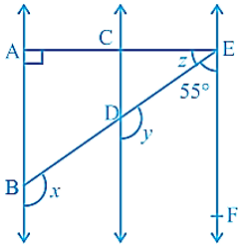
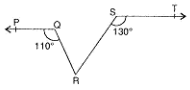
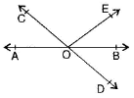
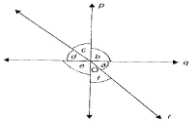
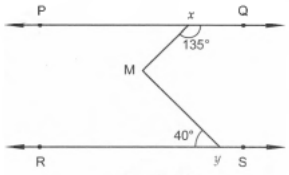
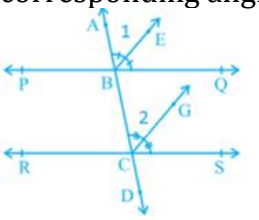
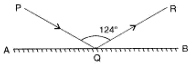
	a) (ii) and (iv) are correct b) (i) and (iv) are correct c) (ii) and (iii) are correct d) (i) and (iii) are correct	
5	Two lines and intersect at . If ∠ + ∠ + ∠ = 270°, then ∠ = a) 90° b) 70° c) 80° d) 180°	**[1]**
6	The angles of a triangle are in the ratio 5 : 3 : 7, the triangle is a) An isosceles triangle. b) An obtuse angled triangle c) A right triangle d) An acute angled triangle	**[1]**
7	If∠ A = 4 ∠ B = 6 ∠ C, then A : B : C ? a) 3 : 4 : 6 b) 2 : 3 : 4 c) 6 : 4 : 3 d) 12: 3 : 2	**[1]**
8	Two straight lines and cut each other at . If ∠ = 63°, then ∠ = a) 117° b) 17° c) 153° d) 63°	**[1]**
9	Two planes intersect each other to form a : a) point	**[1]**

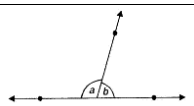
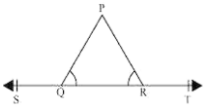
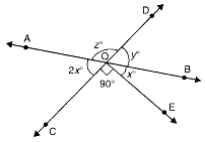
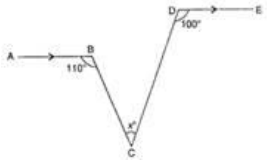
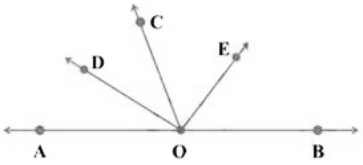
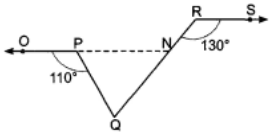
	b) plane c) angle d) Straight line	
10	An angle is one - fifth of its supplement. The measure of the angle is : - a) 15^0 b) 75^0 c) 150^0 d) 30^0	**[1]**
11	If the supplement of an angle is three times its complement, find the angle.	**[1]**
12	Find the angle whose complement is equal to the angle itself.	**[1]**
13	An angle is 14^o more than its complementary angle. What is its measure?	**[1]**
14	Write the supplement of the angle: 138°	**[1]**
15	If the supplement of an angle is two - third of itself. Determine the angle and its supplement.	**[1]**
16	Write the complement of the angle:20^o	**[1]**
17	Find the supplement of theangle42°.	**[1]**
18	Find the measure of an angle whose supplement is equal to the angle itself.	**[1]**
19	Find the measure of the supplementary angle of 68^o .	**[1]**
20	Write the supplement of the angle: 54°	**[1]**
21	Find the measure of the supplementary angle of 125^o .	**[1]**
22	Find the measure of the complementary angle of 72^o .	**[1]**
23	An angle is 20° less than its complement. Find its measure.	**[1]**
24	Write the complement of the angle: 30°	**[1]**
25	If the complement of an angle is equal to the supplement of the thrice of it. Find the measure of theangle.	**[1]**
26	In Fig, OA, OB are opposite rays and∠ AOC + ∠ BOD = 90°. Find ∠ COD. 	**[2]**

27	In a figure, x = y and a = b. Prove that l || n. 	**[2]**
28	∠ AOC and ∠ AOB are right angles, show that BOC is a line. 	**[2]**
29	In the given figure, AB is a mirror, PQ is the incident ray and QR, the reflected ray. If∠ PQR = 112°, find ∠ PQA. 	**[2]**
30	In the adjoining figure, what value of x will make AOB a straight line? 	**[2]**
31	Prove that if two lines intersect each other then vertically opposite angleare equal. 	**[2]**
32	In figure, AB, CD and PQ are three lines concurrent at O. If∠ AOP = 5y, ∠ QOD = 2y and ∠ BOC = 5y. Find the value of y. 	**[2]**
33	If the ratio between two complementary angles is 2: 3, then find the angles.	**[2]**
34	In the adjoining figure, AOB is a straight line. Find the value of x. Hence, find∠ AOC, ∠ COD and ∠ BOD. 	**[2]**
35	In figure,∠ POR and ∠ QOR from a linear pair. If a – b = 80 ^{o} , find the values of a and b. 	**[2]**

36	Two complementary angles are in the ratio 4 : 5. Find the angles.	**[2]**
37	In the given figure, the two lines AB and CD intersect at a point O such that∠ BOC = 125°. Find the values of *x, y* and *z* . 	**[2]**
38	Find the angle whose complement is one third of its supplement.	**[2]**
39	If the angles (2x - 10)° and (x - 5)° are complementary angles, find x.	**[2]**
40	Find the measure of an angle, if seven times its complement is 10° less than three times its supplement.	**[2]**
41	In figure, if∠ AOC + ∠ BOD = 70 ^{o} , find ∠ COD. 	**[2]**
42	Rays OA, OB, OC and OE have the common initial point O. Show that∠ AOB + ∠ BOC + ∠ COD + ∠ DOE + ∠ EOA = 360 ^{o} $^{{$	**[2]**
43	In Fig., find the value of x. 	**[2]**
44	In the adjoining figure, what value of x will make AOB, a straight line? 	**[2]**
45	In the adjoining figure, AOB is a straight line. Find∠ AOC and ∠ BOD. 	**[2]**
46	In the given figure, OP, OQ, OR and OS are four rays. Prove that∠ POQ + ∠ ROQ + ∠ SOR + ∠ POS = 360°. 	**[3]**
47	If two lines intersect, prove that the vertically opposite angles are equal.	**[3]**
48	Prove that the bisectors of a pair of vertically opposite angles are in the same straight line.	**[3]**
49	In the given figure, if AB || CD, CD || EF and y: z = 3: 7, find x. 	**[3]**
50	In figure,∠ AOF and ∠ FOG form a linear pair, ∠ EOB = ∠ FOC = 90 ^{o} and ∠ DOC =	**[3]**

	∠ FOG = ∠ AOB = 30 ^{o} . Find the measures of FOE, COB and DOE. 	
51	Two lines AB and CD intersect at a point O such that$\angle BOC + \angle AOD = 280°$, as shown in the figure. Find all the four angles.	**[3]**
52	In each of the figures given below,AB||CD. Find the value of x° 	**[3]**
53	Prove that if the arms of an angle are respectively perpendicular to the arms of another angle, then the angles are either equal or supplementary.	**[3]**
54	In each of the figures given below, AB‖ CD. Find the value of x ° in each other case. 	**[3]**
55	In each of the figures given below,AB‖ CD. Find the value of x ° ineach case. 	**[3]**
56	In figure,∠ ABC = 65 ^{o} , ∠ BCE = 30 ^{o} , ∠ DCE = 35 ^{o} and ∠ CFE = 145 ^{o} . Prove that AB || EF. 	**[3]**
57	In the given figure, POQ is a line. Ray OR is perpendicular to line PQ. OS is another ray lying between rays OP and OR. Prove that$\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$. 	**[3]**
58	In the given figure, AB‖ CD, $\angle ABO = 40°$, $\angle CDO = 35°$. Find the value of the reflex ∠ BOD and hence the value of x. 	**[3]**
59	In the given figure, AB‖ CD and $\angle AOC = x°$. If $\angle OAB = 104°$ and $\angle OCD = 116°$,	**[3]**

	find the value of x. 	
60	Fig., AB || CD and CD || EF. Also, EA⊥ AB. If ∠ BEF = 55°, find the values of x, y and z. 	**[3]**
61	In figure, if PQ || ST,∠ PQR = 110 ^{o} and ∠ RST = 130 ^{o} ,find ∠ QRS. 	**[5]**
62	In figure, lines AB and CD intersect at O. If∠ AOC + ∠ BOE = 70 ^{o} and ∠ BOD = 40 ^{o} , find ∠ BOE and reflex ∠ COE. 	**[5]**
63	In figure, three lines p, q and r are concurrent at O. If a = 50^o and b = 90 ^{o} . Find c, d, e and f. 	**[5]**
64	In Fig., if PQ || RS,∠ MXQ = 135° and ∠ MYR = 40°, find ∠ XMY. 	**[5]**
65	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. 	**[5]**
66	In the following figure, PQ is an incident ray and QR is the reflected ray. If∠ PQR = 124 ^{o} , then find ∠ RQB. 	**[5]**
67	One of the four angles formed by two intersecting lines is a right angle. Show that the other three angles will also be right angles.	**[5]**
68	In figure, a is greater than b by one third of a right angle. Find the values of a and	**[5]**

	b. 	
69	In the given figure,∠ PQR = ∠ PRQ, then prove that ∠ PQS = ∠ PRT 	**[5]**
70	In the figure, AB and CD are two straight lines, intersecting each other at a point. If∠ COE = 90 ^{o} . Find the values of x, y and z. 	**[5]**
71	AB, CD and EF are three concurrent lines passing through the point O such that OF bisects∠ BOD. If ∠ BOF = 35 ^{o} . Find ∠ BOC and ∠ AOD.	**[5]**
72	If two straight lines intersect each other in such a way that one of the angles formed measures 90°, show that each of the remaining angles measures 90°	**[5]**
73	In figure, AB || DE, find the value of x. 	**[5]**
74	In the below fig. If OD is the bisector ofAOC, OE is the bisector ofBOC and OD⊥OE. Show that the points A, O and B are collinear. 	**[5]**
75	In Fig. if PO||RS.Determine∠PQR. 	**[5]**