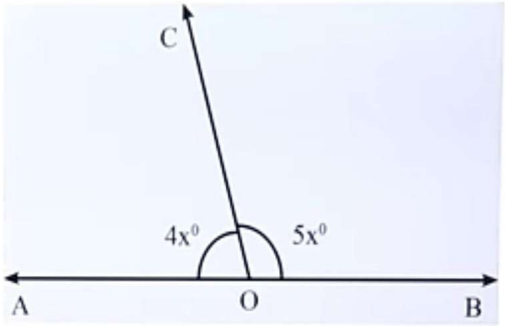
DAV NUPPL Public School
NUPPL Township, Ghatampur, Kanpur Nagar, UP-209206

Assignment: Half yearly **Class : IX**
Subject: Mathematics **Session: 2024-25**

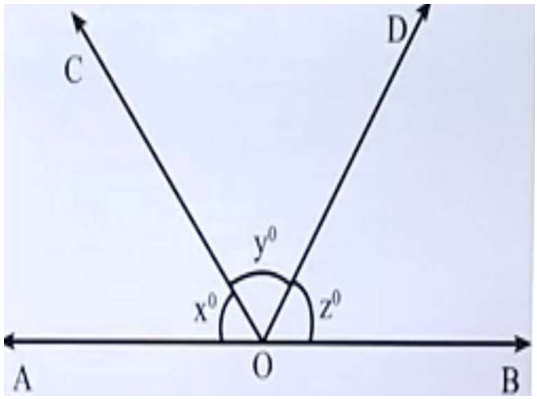
CHAPTER - 6 (LINES AND ANGLES)

Solve the following questions:

1. If two angles are complements of each other then each angle is :
   a. an acute angle b. a right angle c. a reflex angle d. an obtuse angle
2. An angle which measures more than 180^o but less than 360^o, is called :
   a. an acute angle b. a reflex angle c. an obtuse angle d. a straight angle
3. The measure of an angle is five times its complement. The angle measures
   a. 25^o b. 35^o c. 65^o d. 75^o
4. 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. 72^o b. 54^o c. 63^o d. 36^o
5. In the given figure, AOB is a straight line. If $\angle AOC = 4x^0$ and $\angle BOC = 5x^0$ then $\angle AOC = ?$

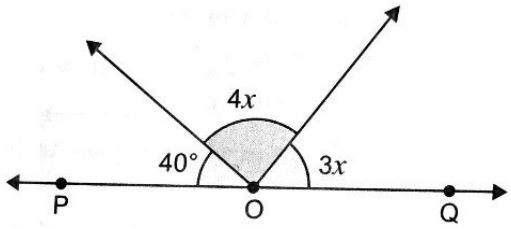


   a. 40^o b. 60^o c. 80^o d. 100^o
6. Which of the following statements is false?
   a. Through a given point, only one straight line can be drawn.
   b. Through two given points, it is possible to draw one and only one straight line.
   c. Two straight lines can intersect only at one point.
   d. A line segment can be produced to any desired length.
7. In the adjoining figure, AOB is a straight line. If $x : y : z = 4 : 5 : 6$, then y = ?



   a. 60^o b. 80^o c. 48^o d. 72^o

8. In figure, POQ is a line. The value of x is :



a. 20^o b. 25^o c. 30^o d. 35^o

9. An angle is one fifth of its supplement. The measure of the angle is :

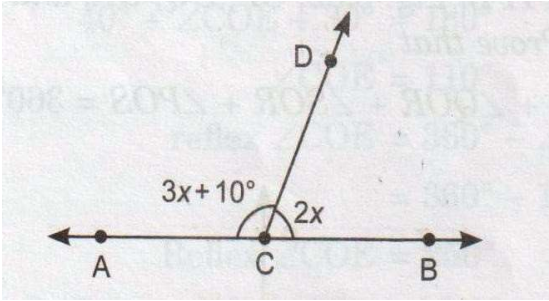
a. 15^o b. 30^o c. 75^o d. 150^0

10. Find the angle which exceeds it complementary angle by 30^o.

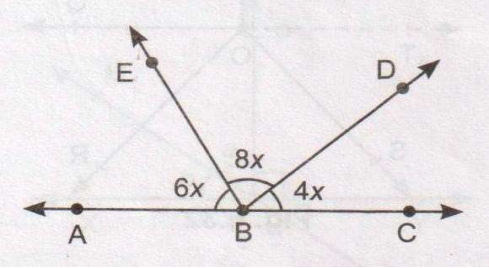
11. Two supplementary angles are in the ratio 2:7. Find the measure of angles.

12. If an angle is 14^o more than its complement, then find its measure.

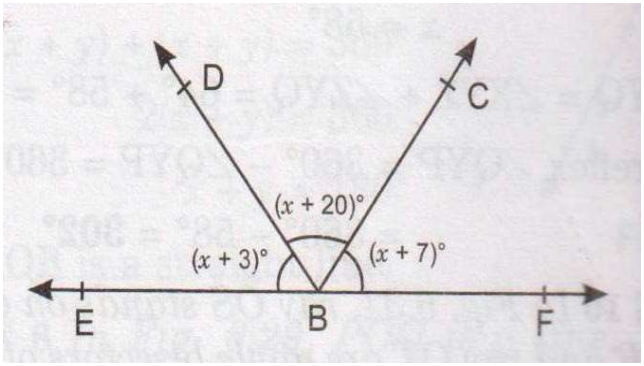
13. In figure, ACB is a line. If $\angle DCA = 3x + 10^o$ and $\angle DCB = 2x$, then find the value of x.



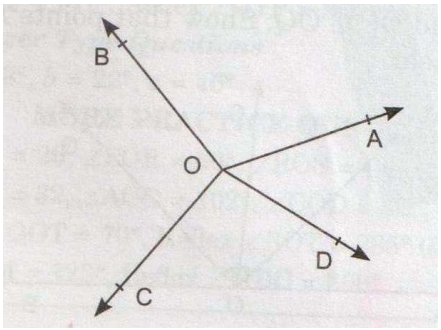
14. In figure, find the measure of $\angle DBC$:



15. In figure, find the value of x.

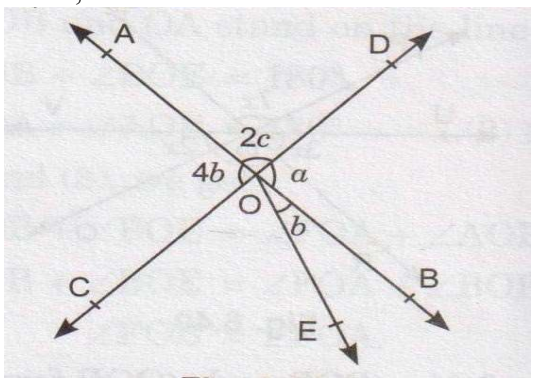


16. In figure, prove that $\angle AOB + \angle BOC + \angle COD + \angle DOA = 360^{o}$.



17. "If two lines intersect each other, then the vertically opposite angles so formed are equal." Prove it.

18. In the figure, two straight lines AB and CD intersect each other at O.
If $\angle COE = 70^{0}$, find the values of a, b and c.



CHAPTER 12: STATISTICS

Solve the following questions:

1. Which one of the following is not the graphical representation of statistical data?
   a. Bar Graph
   b. Histogram
   c. Frequency polygon
   d. Commulative frequency distribution
2. In a histogram, the area of each rectangle is proportional to :
   a. the class mark of the corresponding class interval
   b. the class size of the corresponding class interval
   c. frequency of the corresponding class interval
   d. cumulative frequency of the corresponding class interval
3. In a histogram the class intervals or the groups are taken along :
   a. y - axis
   b. x - axis
   c. both of x - axis and y - axis
   d. in between x and y - axis
4. We can draw histogram, if we have :
   a. grouped and continuous classes
   b. non - continuous classes
   c. classes without frequency
   d. none of the above
5. The following data gives amount of manure (in thousand tonnes) manufactured by a company during some years:

Year	1992	1993	1994	1995	1996	1997
Manure (in thousand tonnes)	18	35	45	30	85	85

   i. Represent the above data with help of a bar graph.
   ii. The consecutive years during which the maximum decrease in manure production took place is?

6. The distribution of weights (in kg) of 87 people is given below :

Weight (in kg)	30-35	35-40	40-45	45-50	50-55	55-60
Frequency	12	20	25	15	10	5

Construct a histogram for the above distribution.

7. Construct a histogram for the following data :

Class Interval	Frequency
10-19	20
20-29	15
30-39	45
40-49	60
50-59	75

8. Construct a frequency polygon with histogram, for the following information :

Class Interval	Frequency
30-45	4
45-60	8
60-75	15
75-90	19

9. The daily wages of 100 workers (in Rs.) in a factory are given below :

Daily wages (in Rs.)	150-200	200-250	250-300	300-350
No. of workers	16	29	37	18

Draw a frequency polygon for the given data.

10. Draw a frequency polygon for the data given below, without drawing a histogram :

Class	150-160	160-170	170-180	180-190	190-200	200-210
Frequency	5	15	20	25	15	10

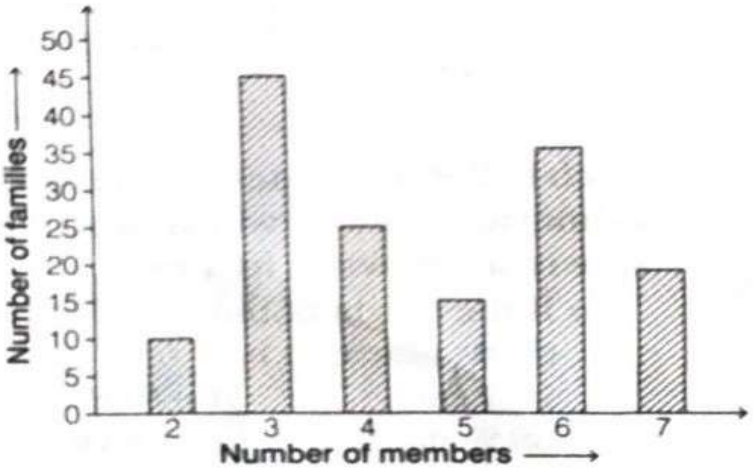
11. The monthly profit (in Rs.) of 100 shops are distributed as follows :

Profit per shop (in Rs.)	0-50	50-100	100-150	150-200	200-250	250-300
No. of shops	12	18	27	20	17	6

Draw a frequency polygon for it.

Case-study based questions:

12. Rajasthan Government conduct a survey of 150 families of a town, the number of members in each family was recorded and the data has been represented by the following bar graph.



i. What information does bar graph give?
   a. Number of member b. Number of families
   c. Number of town d. Town population

ii. How many families have 2 members each?
   a. 5 b. 10 c. 30 d. 45

iii. How many families have 6 members?
   a. 30 b. 35 c. 45 d. 25

iv How many people live alone?
   a. 0 b. 1 c. 2 d. 3

i. Which type of family is most common?
   a. 3 members b. 4 members c. 5 members d. 6 members

In the following questions 13 and 14, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:
(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 but 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.

13. **13**. **Assertion (A)**: 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^o .
    Reason (R): If a transversal intersects two parallel lines, then the sum of the interior angles on the same side of the transversal is 180^o .
14. **Assertion (A)**: An angle is 14^o more than its complementary angle, then angle is 52^o .
    Reason (R): Two angles are said to be supplementary if their sum of measure of angles is 180^o.
15. **Assertion (A)** : The difference between the maximum and minimum values of a variable is called its range.
    Reason (R) : The number of times a variate (observation) occurs in a given data is called range.
16. **Assertion (A)** : The following is the data of wages per day : 8, 4, 7, 5, 8, 8, 5, 7, 9, 5, 7, 9, 10 , 8, then the mode of the data is 8.

    Reason (R) : Mode = Highest Observation – Lowest Observation