



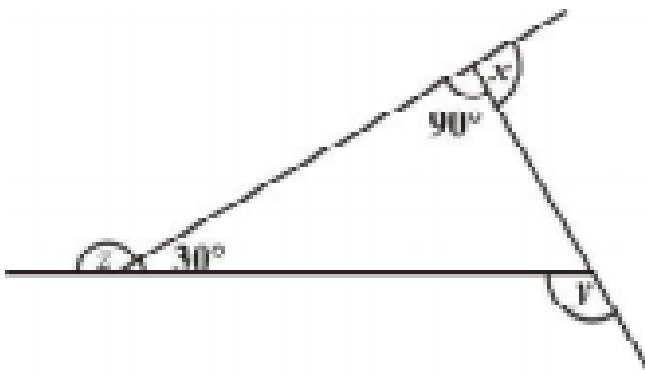
## MATHS

### BOOKS - NAND LAL PUBLICATION

#### DATA HANDLING

#### Question

1. Find  $x+y+z$



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## Think Discuss And Write

1. Which form of graph would be appropriate to display the following data

Production of food grains of a state

| Year                      | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------------------------|------|------|------|------|------|------|
| Production (in Lakh tons) | 60   | 50   | 70   | 55   | 80   | 85   |



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2. In throwing a die

Does the first player have a greater chance of getting six?

Would the player who played after him have lesser chance of getting six?

Suppose the second player got six . Does it mean that the third player would not have a chance of getting a six?



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## Try These

1. Draw an appropriate graph to represent the given information.

| Month                  | July | August | September | October | November | December |
|------------------------|------|--------|-----------|---------|----------|----------|
| Number of watches sold | 1000 | 1500   | 1500      | 2000    | 2500     | 1500     |

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2. Draw an appropriate graph to represent the given information.

| Children who prefer | School A | School B | School C |
|---------------------|----------|----------|----------|
| Walking             | 40       | 55       | 15       |
| Cycling             | 45       | 25       | 35       |

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3. A group of students were asked to say which animal they would like most to have as a pet. The results are given below: dog, cat, cat, fish, cat, rabbit, dog, cat, rabbit, dog, cat, dog, dog, dog, cat, cow, fish, rabbit, dog, cat, dog, cat, c.

Make a frequency distribution table for the same.

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4. Study the following Frequency distribution table and answer the question given below. Frequency Distribution of Daily Income of 550 workers of a factory

Table

| Class Interval<br>(Daily income in rupees) | Frequency<br>(Number of Workers) |
|--|----------------------------------|
| 100-125                                    | 45                               |
| 125-150                                    | 25                               |
| 150-175                                    | 55                               |
| 175-200                                    | 125                              |
| 200-225                                    | 140                              |
| 225-250                                    | 55                               |
| 250-275                                    | 35                               |
| 275-300                                    | 50                               |
| 300-325                                    | 20                               |
| Total                                      | 550                              |

- (i) What is the size of the class intervals?
- (ii) Which class has the highest frequency?
- (iii) Which class the lowest frequency?
- (iv) Which two classes have the same frequency?



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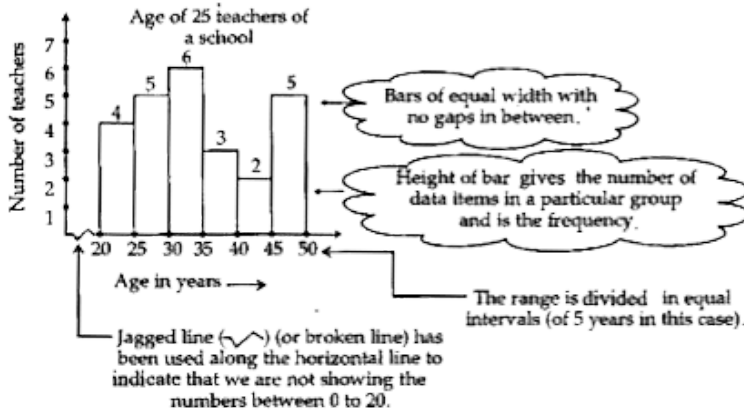
5. Construct a frequency distribution table for the data on weights ( in kg.) of 20 students of a class using intervals 30-35,35-40 and so on.

40,38,33,48,60,53,31,46,34,36,49,41,55,49,65,42,44,47,38,39.



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6. The following graph is another histogram (Fig.)

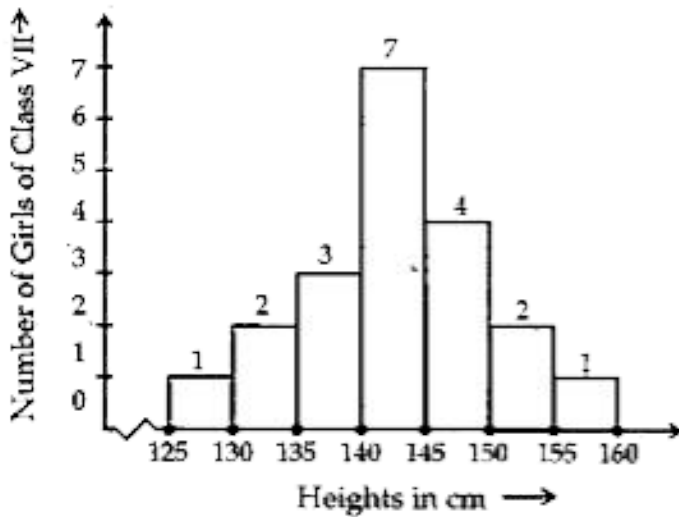


From the bars of this histogram, we can answer the following questions :

- How many teachers are of age 45 years or more but less than 50 years?
- How many teachers are of age less than 35 years?

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7. Observe the histogram (fig.) and answer the question given below:



(i) What information is being given by the histogram?

(ii) Which group contains maximum girls.

(iii) How many girls have height 145 cms. and more?

(iv) If we divide the girls into the following three categories, how many would there be in each?

150 cm and more - Group A

140 cm to less than 150 cm - Group B

Less than 140 cm - Group C



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8. Which two types of programmes have number of viewers equal to those watching sports channels ?

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9. Draw a pie chart of the data given below:

The time spent by a child during a day.

Play = 4 hours

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10. If you try to start a scooter, what are the possible outcomes ?

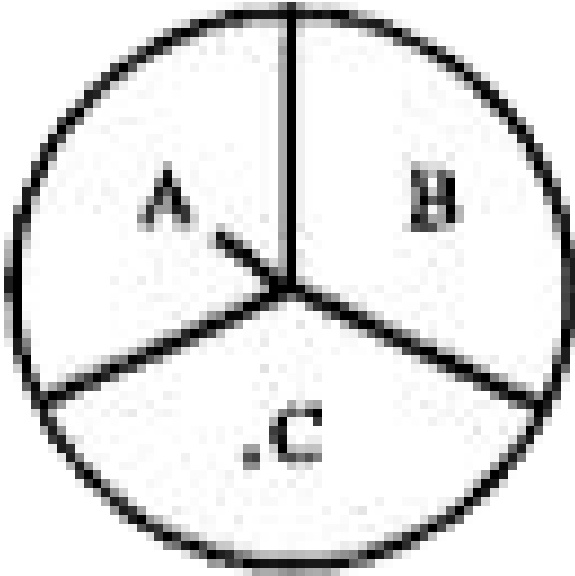
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11. When a die is thrown, what are the six possible outcomes?

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12. When you spin the wheel shown, what are the possible outcomes (see adjoining figure) List them.



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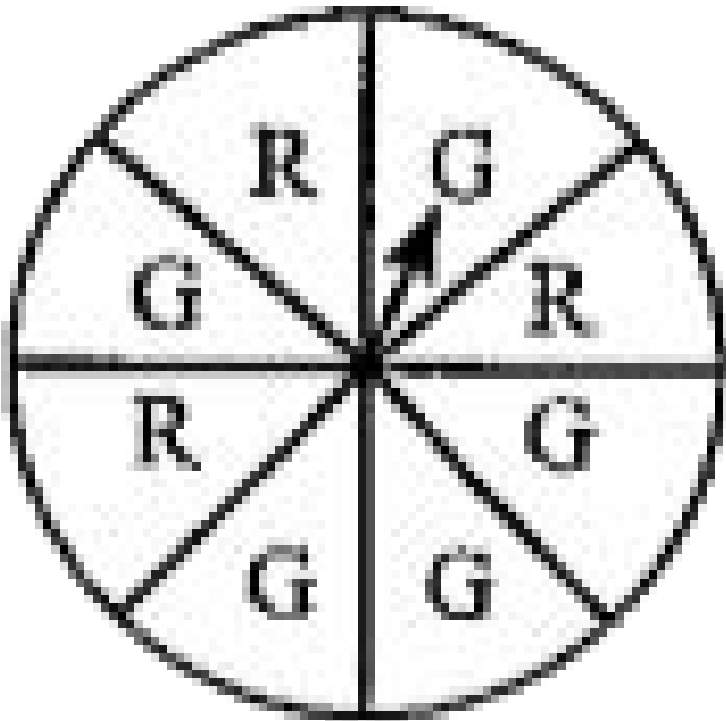
13. You have a bag with five identical balls of different colours and you are to pull out (draw ) a ball without looking at it,list theoutcomes you would get (Fig.)





14. Suppose you spin the wheel

- (i) List the number of outcomes of getting a green sector and not getting a green sector on this wheel. (fig.)
- (ii) Find the probability of getting a green sector.
- (iii) Find the probability of not getting a green sector.





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## Exercise 5 1

1. For which of these would you use a histogram to show the data : The number of letters for different areas in a postman's bag. Give reasons for each

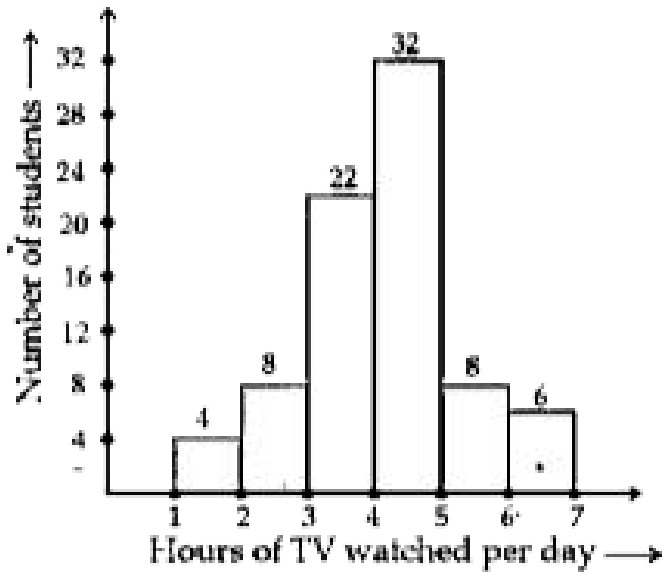


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2. The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following:

- (i) For how many hours did the maximum number of students watch TV?
- (ii) How many students watched TV for less than 4 hours?

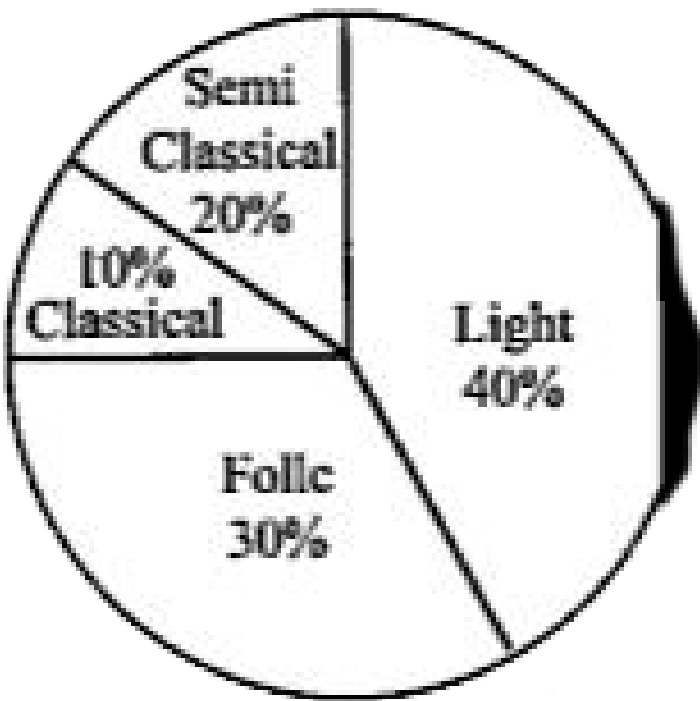
(iii) How many students spent more than 5 hours in watching TV?



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## Exercise 5 2

1. A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey.



Find this pie chart answer the following




- (i) If 20 people liked classical music, how many young people were surveyed?
- (ii) Which type of music is liked by the maximum number of people?
- (iii) If a cassette company were to make 1000 CD's how many of each type would they make?



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2. A group of 360 people were asked to vote for their favorite season from the three seasons rainy, winter and summer.

- (i) Which season got the most votes?
- (ii) Find the central angle for each sector.
- (iii) Draw a pie chart to show this information.

| Season |   | Number of Votes |
|--------|---|-----------------|
| Summer |  | 90              |
| Rainy  |  | 120             |
| Winter |  | 150             |

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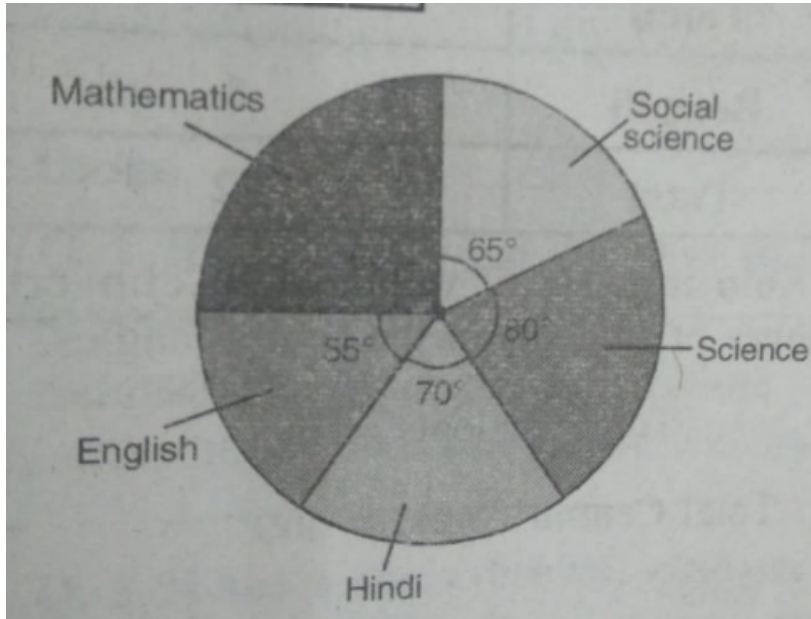
3. Draw the pie chart showing the following information. The table shows the colours preferred by a group of people.

| Colours | Number of People |
|---------|------------------|
| Blue    | 18               |
| Green   | 9                |
| Red     | 6                |
| Yellow  | 3                |
| Total   | 36               |

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4. The adjoining pie chart gives the marks scored in an examination by a student in Hindi, English, Mathematics, Social Science and Science. If the total marks obtained by the students were 540, answer the following questions:

In which subject did the student score 105 marks?



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5. The number of students in a hostel, speaking different languages is given below. Display the data in a pie chart.



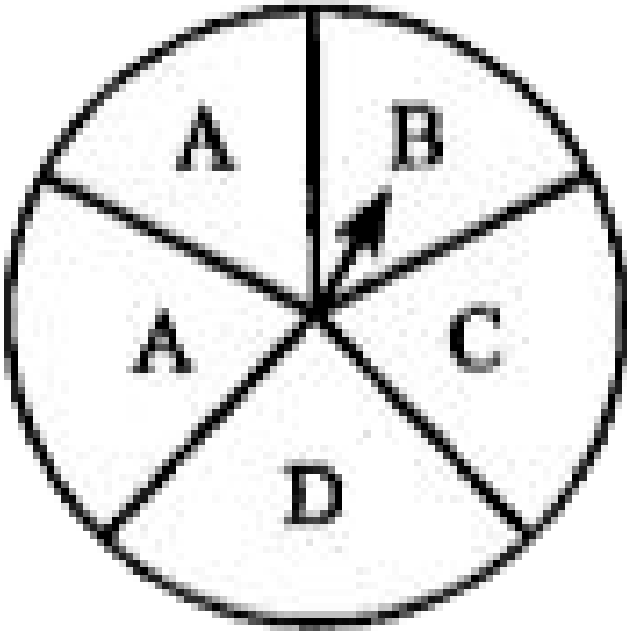
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1. List the outcomes you can see in the these experiments :

(a) Spinning a wheel

(b) Tossing two coins together



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2. When a die is thrown, list the outcomes of an event of getting : (i) (a) a prime number (b) not a prime number.

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3. When a die is thrown, list the outcomes of an event of getting : (ii) (a) a number greater than 5 (b) a number not greater than 5.



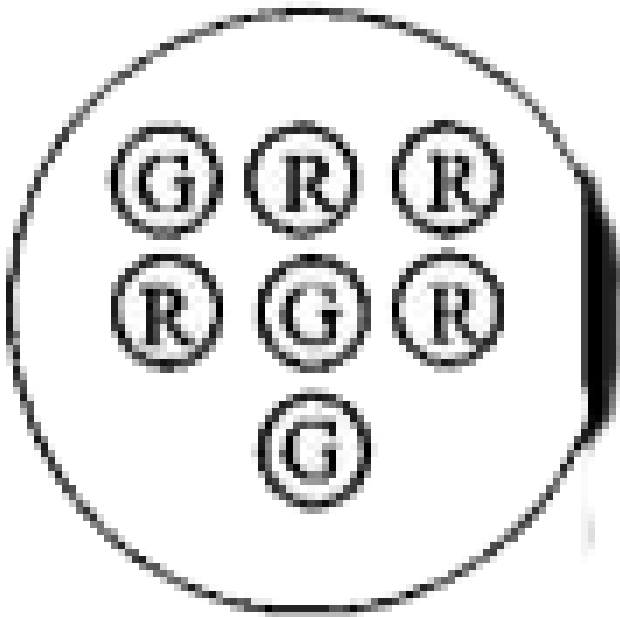
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4. Find the

(a) Probability of the pointer stopping on D ?

(b) Probability of getting an ace from a well shuffled deck of 52 playing cards.

(c) Probability of getting a red apple (See the fig.)



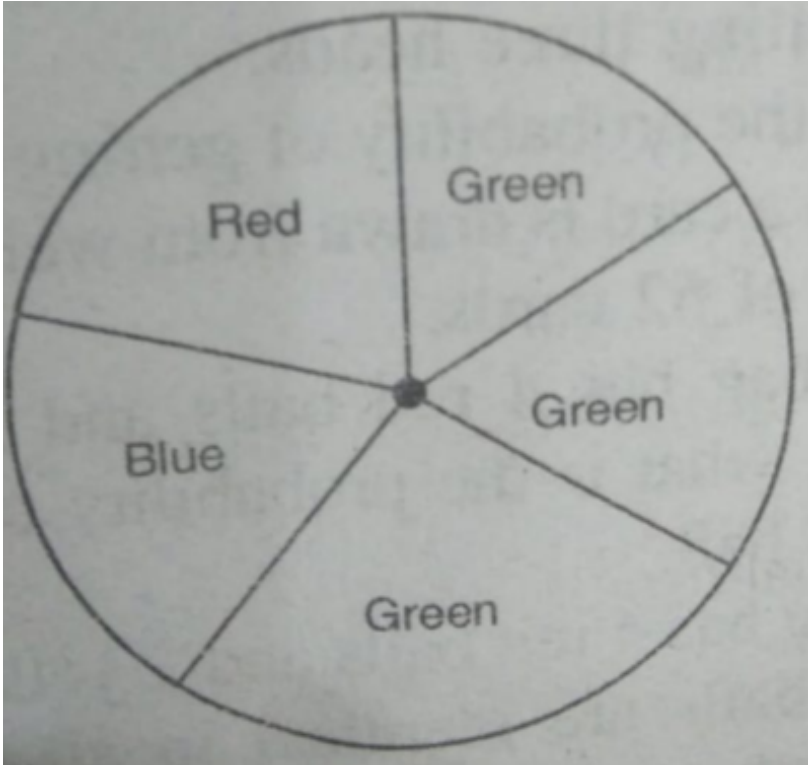
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5. Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of : getting a number 6?

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6. If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, What is the probability of getting a green sector?

What is the probability of getting a non blue sector?



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**Additional Questions For Practice Objective Type Questions**

1. Fill in the blanks.

Data in unorganised form is called \_\_\_\_\_ data.

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2. Fill in the blanks.

Upper limit of 6th class interval with frequency distribution as 0-15, 15-30,..... is \_\_\_\_

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3. Fill in the blanks.

A pie chart is a circle graph divided into \_\_\_\_\_.

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4. Fill in the blanks.

Probability is a number between \_\_ and \_\_\_\_



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5. Fill in the blanks.

One card is picked from a pack of 52 playing cards, the probability that the card picked is an ace of spade is \_\_\_\_\_



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6. Fill in the blanks.

Each outcome or collection of outcomes of an experiment is known as an \_\_\_\_\_.



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7. Fill in the blanks.

A pictorial representation of grouped data in which rectangles are formed with class intervals as the bases and the corresponding frequencies at the height is known as \_\_\_\_\_.

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8. State whether the given statements are True or False.

14 bars of equal width are required to show the height of 7 students in a histogram.

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9. State whether the given statements are True or False.

We can also use square in making a pie chart.

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10. State whether the given statements are True or False.

It is necessary to keep the width of all bars in a bar graph equal.



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11. The lower limit of class interval 20-25 is :



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12. State whether the given statements are True or False.

On throwing a dice once, the probability of getting a number more than 1 and less than 5 is  $\frac{1}{2}$ .



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13. State whether the given statements are True or False.

The probability of getting a number less than 7 in a throw of dice is 1.



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14. State whether the given statements are True or False.

Grouped data is represented using double bar graph.



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15. While throwing a dice probability of getting 8 is

A. 1

B. 2

C. 0

D. None

**Answer: C**



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16. Tally marks are used to find

- A. frequency
- B. upper limit
- C. range
- D. None

**Answer: A**



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17. Data represented using circles is called

- A. Bar graph
- B. pictograph
- C. pie chart
- D. None

**Answer: C**



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**18.** Size of class interval 150–175 is

A. 150

B. 175

C. 25

D. None

**Answer: C**



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**19.** If we throw a coin, the sample space will be

A. {H, H}

B. {T, T}

C. {H, T}

D. None

**Answer: C**



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**20.** Formula to find the central angle of the sector in a pie chart is

A.  $\frac{\text{frequency of the variable}}{\text{Total frequency}} \times 360$

B.  $\frac{\text{Total frequency}}{\text{frequency of the variable}} \times 360^\circ$

C.  $\frac{\text{frequency of the variable}}{\text{Total frequency}} \times 180^\circ$

D. None

**Answer: A**



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21. What will be the probability of an impossible event ? a. 0 b. 1 c. 2 d. 3

A. 1

B. 0

C. both

D. None

**Answer: B**



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### Additional Questions For Practice Short Answer Type Questions

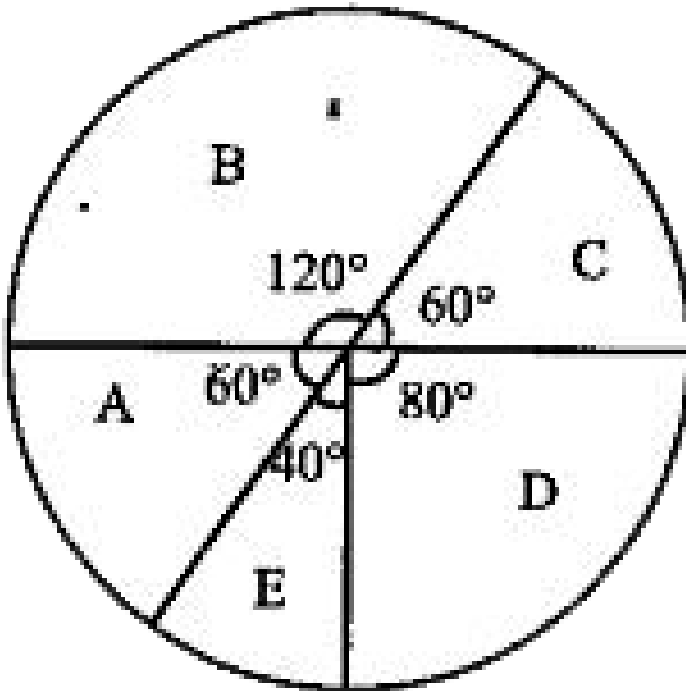
1. Following are the numbers of members in 25 families of a village 7, 9, 8, 8, 7, 6, 4, 3, 7, 9, 8, 8, 5, 4, 7, 7, 7, 8, 6, 5, 4, 4, 3, 6, 5

Prepare a frequency distribution table for the data using class intervals 0-3, 3-6.....so on.



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2. The pie chart gives the information of the number of votes obtained by five schools leaders, who contested for school elections. The total votes polled were 540.



- Who won the elections?
- By how many votes did the winner defeat the nearest rival?
- Who got the least number of votes?

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## Additional Questions For Practice Long Answer Type Questions

1. Draw a pie chart for the following data. Number of students studying languages in a school.

| Language        | German | Italian | French | Chinese |
|-----------------|--------|---------|--------|---------|
| No. of students | 60     | 80      | 60     | 40      |

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2. The ages of 30 teachers in a school are as follows:

25, 28, 43, 36, 27, 34, 50, 45, 30, 32, 51, 44, 33, 31, 30, 35, 42, 45, 41, 47, 30, 34, 32, 35, 31, 36, 46, 56, 25, 36.

1. Make a frequency distribution table with intervals as 30-35.
2. Prepare a histogram of the above frequency distribution table.

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3. When two coins are tossed simultaneously. Find the probability of getting.

One tail



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4. When two coins are tossed simultaneously. Find the probability of getting.

Two tails



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5. When two coins are tossed simultaneously. Find the probability of getting.

at least one head



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6. When two coins are tossed simultaneously. Find the probability of getting.

no heads



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7. A card is drawn at random from a pack of 52 cards. Put the probability that a card drawn is

A black king



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8. A card is drawn at random from a pack of 52 cards. Put the probability that a card drawn is

a red card



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9. A card is drawn at random from a pack of 52 cards. Put the probability that a card drawn is a queen



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10. A card is drawn at random from a pack of 52 cards. Put the probability that a card drawn is a card of diamond



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11. A packet contains 6 red balloons, 5 blue balloons and 4 white balloons. A balloon is packed at random from the packet. What is the probability that the balloon picked is not red



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**12.** A packet contains 6 red balloons, 5 blue balloons and 4 white balloons. A balloon is packed at random from the packet. What is the probability that the balloon picked is not white

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**13.** A packet contains 6 red balloons, 5 blue balloons and 4 white balloons. A balloon is packed at random from the packet. What is the probability that the balloon picked is blue

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**14.** A packet contains 6 red balloons, 5 blue balloons and 4 white balloons. A balloon is packed at random from the packet. What is the probability that the balloon picked is red



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## Sample Paper For Practice Answer The Multiple Choice Question

1. Probability of choosing a prime number from 1 to 9 is

A.  $\frac{4}{9}$

B.  $\frac{5}{9}$

C. 1

D. None

**Answer: A**



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2. In a frequency distribution with class 0-20, 20-40.....lower limit of 5th class interval is

A. 60

B. 80

C. 100

D. None

**Answer: B**



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**3. Mode of the data 2, 1, 2, 3, 3, 1, 1 is**

A. 1

B. 2

C. 3

D. None

**Answer: A**



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4. Range of the data 6,7, 31, 8, 61, 67, 41, 23 is

A. 63

B. 65

C. 61

D. None

**Answer: C**



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**Sample Paper For Practice Fill In The Blanks**

1. In a pie chart, sum of all central angles must be \_\_\_\_\_ .



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2. Number of times a particular observation occurs in a given data is called \_\_\_\_\_



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3. Difference between the upper class limit and the lower class limit is called the \_\_\_\_\_ of the class interval.



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4. \_\_\_\_\_ can be presented using histogram.



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## Sample Paper For Practice

1. Correct the following statement.

In the experiment of tossing a coin, number of outcomes are 3.



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2. Correct the following statement.

Central angle of a sector in a pie chart cannot be more than  $180^\circ$ .



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3. Correct the following statement.

A graph showing two sets of data simultaneously is a bar graph.



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4. Correct the following statement.

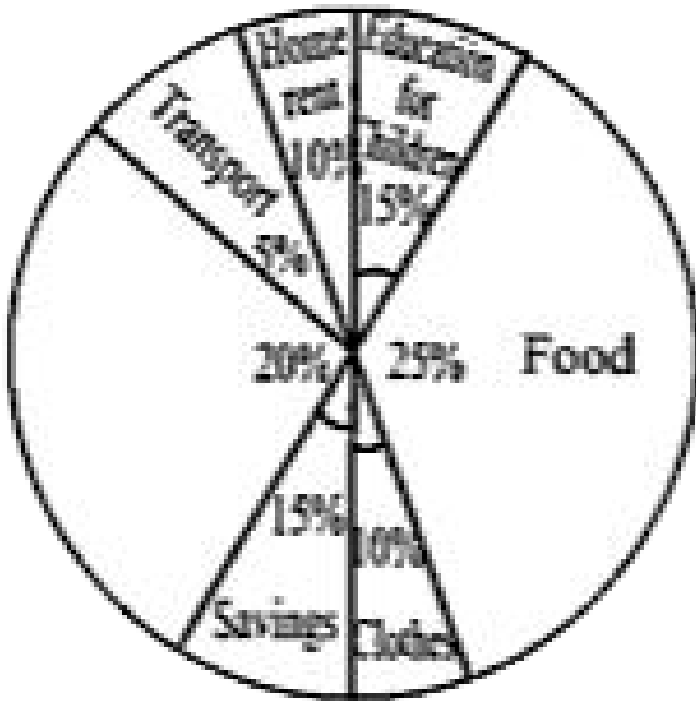
In the class interval 0–40, 40–80..... 120 lies in the class interval 80–120.



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5. The pie chart given below gives the expenses in % on various items along with the savings of a family.



Find the :

Minimum and maximum expenses made on which area?

Which expense/expenses are equal to the saving of the family?

If the monthly savings is Rs. 4,500, find the expenses made on clothes.



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6. The average temperatures ( $^{\circ}C$ ) of a city for the particular month are given below.

9, 10, 9, 10, 9, 5, 11, 10, 7, 8, 10, 11, 12, 12, 12, 11, 7, 8, 9, 9, 5, 7, 6, 7, 8, 8, 6, 7, 8, 7, 5

Prepare the grouped frequency table using equal class size taking one of the classes as 5-7.

What is the minimum and the maximum temperature?

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7. The following table shows the number of students in various classes in different school activities.

| Activities         | Swimming | Dance | Singing | Basketball | Karate |
|--------------------|----------|-------|---------|------------|--------|
| Number of Students | 108      | 150   | 75      | 180        | 27     |

Represent the above data by a pie chart.

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8. List the possible outcomes when three coins are tossed simultaneously.

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9. A card is drawn from a well shuffled pack of 52 playing cards. What is the probability of getting.

(i) a card of heart (ii) A red queen

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10. A letter is chosen from a word MATHEMATICS. What is the probability that it is a vowel.

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