



## MATHS

### BOOKS - TARGET MATHS (HINGLISH)

## STATISTICS

#### Example

1. Given below is the distribution of turnover (In lakh Rs) of 50 departmental in a year.

<b>Turnover (In lakh ₹)</b>	5 – 15	15 – 25	25 – 35	35 – 45	45 – 55
<b>No. of stores</b>	5	10	20	13	2

Find mean turnover of the stores.



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2. The class width and class mark of the class  $10.5 - 12.5$  are \_\_\_\_\_ and \_\_\_\_\_ respectively.

A. 2, 11

B. 2, 11.5

C. 10, 11

D. 10, 11.5

**Answer: B**



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3. Given below is the distribution of the daily income of workers.

<b>Daily income (in ₹)</b>	100 – 150	150 – 200	200 – 250	250 – 300	300 – 350	350 – 400
<b>No. of workers</b>	2	7	9	8	6	4

Find the mean of daily income of a worker.



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4. Given below is the distribution of the daily income of workers.

Daily income (in ₹)	100 – 150	150 – 200	200 – 250	250 – 300	300 – 350	350 – 400
No. of workers	2	7	9	8	6	4

Find the mean daily income of a worker.

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5. Find the median of the given data : 58, 74, 69, 70, 73, 74, 80.

A. 73

B. 74

C. 70

D. 80

**Answer: A**

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6. Find the median of the given data : 50, 70, 90, 94, 40, 65, 70, 80, 85, 95.

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7. For the given frequency distribution find the median.

<b>Class</b>	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
<b>Frequency</b>	50	42	50	70	40	20

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8. Given below is the frequency distribution of daily wages (in Rs) of 130 workers.

<b>Daily wages (in ₹)</b>	80 – 84	85 – 89	90 – 94	95 – 99	100 – 104	105 – 109
<b>No. of workers</b>	10	20	25	40	30	05

Find the median of the daily wages of workers.

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9. Find the median for the given frequency distribution.

<b>Class</b>	Less than 50	Less than 60	Less than 70	Less than 80	Less than 90	Less than 100	Less than 110
<b>Frequency</b>	4	12	24	41	51	58	60

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10. The following table shows ages of people who went to a particular play of circus in a day.

<b>Age (in years)</b>	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
<b>No. of people</b>	30	70	50	45	40

Find the mode of the ages of the visitors.



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11. Draw a histogram to represent the following data.

<b>Class</b>	1500–2500	2500–3500	3500–4500	4500–5500	5500–6500
<b>Frequency</b>	6	12	8	4	10



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12. Draw a frequency polygon to represent the following data.

<b>Class</b>	1500–2500	2500–3500	3500–4500	4500–5500	5500–6500
<b>Frequency</b>	6	12	8	4	10



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13. Draw the frequency polygon to represent the following data.

<b>Class</b>	1500–2500	2500–3500	3500–4500	4500–5500	5500–6500
<b>Frequency</b>	6	12	8	4	10



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14. The marks obtained by a student in various subjects in an examination are given below.

<b>Subject</b>	Marathi	English	Science	Maths	<b>Total</b>
<b>Marks</b>	85	85	90	100	360

Represent the data using pie diagram.



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15. The following table shows the household expenditure of family on different items. Draw a pie chart to represent the given data.

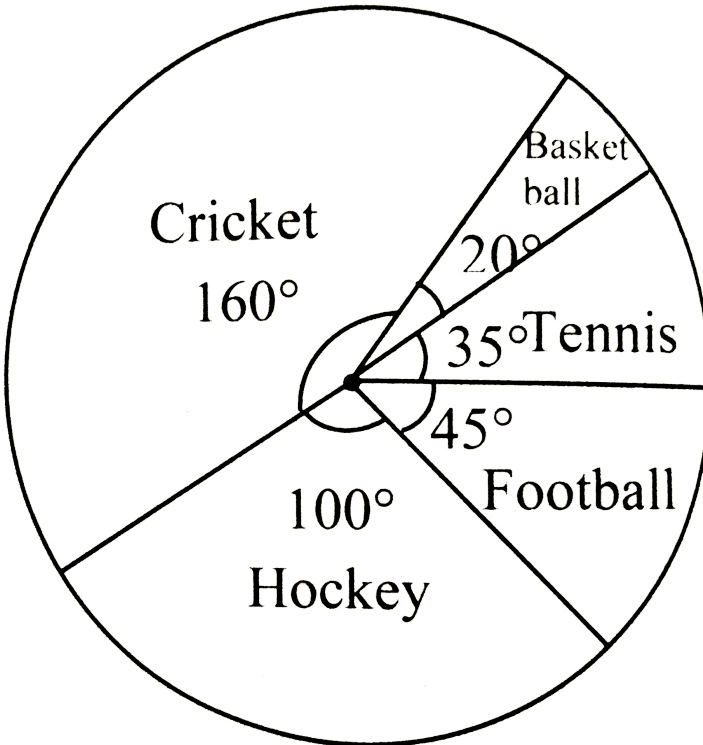
Item	Rent	Food	Cloting	Education	Others
Expenditure	25 %	30 %	10 %	15 %	20 %



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16. The pie diagram represents the amount spent on different sports by a school administration in a year. If the money spent on football is  $Rs9000$ , answer the following questions :

- i.* What is the total amount spent on sports?
- ii.* What is the amount spent on hockey?
- iii.* How much more amount is spent on tennis than on basket ball?



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1. The daily sale of 100 vegetable vendors is given in the following table.

Find the mean of the sale by direct method.

Daily sale (in ₹)	1000 – 1500	1500 – 2000	2000 – 2500	2500 – 3000
No. of vendors	15	20	35	30



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2. The following table shows the funds collected by 50 students for flood affected people. Find the mean of the funds.

Fund (₹)	0 – 500	500 – 1000	1000 – 1500	1500 – 2000	2000 – 2500	2500 – 3000
No. of students	2	4	24	18	1	1

If the number of scores in two consecutive classes is very low, it is convenient to club them. So, in the above example, we club the classes 0 – 500, 500 – 1000 and 2000 – 2500, 2500 – 3000. Now the new table is as follows

Fund (₹)	0 – 1000	1000 – 1500	1500 – 2000	2000 – 3000
No. of students	6	24	18	2

i. Solve by direct method.



ii. Verify that the mean calculated by assumed mean method is the same.

iii. Find the mean in the above example by taking  $A = 1750$ .



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## Multiple Choice Questions

1. If  $\bar{d} = -20.83$ ,  $\bar{X} = 254.17$ , then  $A = ?$

A. 270

B. 275

C. 233.34

D. 12.20

**Answer: B**



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2. Identify the correct formula for mean from the following:

A.  $\bar{X} = A - \bar{d}$

B.  $\bar{X} = A + \bar{d}$

C.  $\bar{X} = \bar{d} - A$

D.  $\bar{X} = A + \bar{u}$

**Answer: B**



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3. If  $\sum f_i = 20$ ,  $\sum f_i x_i = 120 + y$  and  $\bar{X} = 7$ , then  $y = ?$

A. 10

B. 20

C. 30

D. 40

**Answer: B**

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4. If  $\sum f_i u_i = 36$ ,  $\sum f_i = 100$ ,  $A = 40$  and  $h = 3$ , then  $\bar{X} = ?$

A. 41.08

B. 38.92

C. 39.64

D. 40.36

**Answer: A**

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5. Raju has a hobby of collecting tickets everyday. He collected 2, 1, 2, 5, 3, 1, 4 tickets in last week. What is the mean number of tickets collected by Raju everyday?

A. 2.67

B. 2.57

C. 3.67

D. 3.57

**Answer: B**



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6. Median class for the following data is \_\_\_\_\_ .

<b>Age (in years)</b>	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
<b>Number of people</b>	5	2	6	8	10

A. 40 – 50

B. 10 – 20

C. 20 – 30

D. 30 – 40

**Answer: D**



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7. Identify the correct formula from the following:

A. Median =  $L + \left(\frac{N}{2} + cf\right) \frac{h}{f}$

B. Median =  $L + \left(\frac{N}{2} - cf\right) \frac{f}{h}$

C. Median =  $L + \left(\frac{N}{2} - cf\right) \frac{h}{f}$

D. Median =  $L + \left(\frac{N}{2} + cf\right) \frac{f}{h}$

Answer: C



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8. If  $L = 20$ ,  $f_i = 100$ ,  $f_0 = 70$ ,  $f_2 = 70$ ,  $h = 10$ , then mode=?

A. 20

B. 20.5

C. 25

D. 30

Answer: C



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9. For the following table, the values of  $f_1$ ,  $f_0$  and  $f_2$  are respectively\_\_\_\_\_.

Class	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	2	5	10	8	4

A. 5, 10, 8

B. 10, 5, 8

C. 8, 10, 5

D. 10, 8, 5

Answer: B



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10. Modal class for the data given below is \_\_\_\_\_.

Class	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	2	5	10	8	4

A. 10 – 20

B. 40 – 50

C. 50 – 60

D. 30 – 40

**Answer: D**



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11. After the class are made continuous, the lower limit of the class 40 – 44 is \_\_\_\_\_.

A. 39.5

B. 44.5

C. 40.5

D. 45.5

**Answer: A**



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12. In a pie diagram, central angle for football is  $45^\circ$ . If the total expenditure on all sports is  $Rs72000$ , then what is the amount spent of football?

A.  $Rs180000$

B.  $Rs9000$

C.  $Rs4500$

D.  $Rs4000$

**Answer: B**



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13. A pie diagram represents the number of hours spent by a school boy in different activities in a day. If 7 hours are spent in school, then what is the measure of the central angle?

A.  $210^\circ$

B.  $105^\circ$

C.  $52.5^\circ$

D.  $90^\circ$

**Answer: B**



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14. From the total expenditure, expenditure on education is 20%. What is the measure of the central angle of expenditure on education to show in the pie diagram?

A.  $72^\circ$

B.  $144^\circ$

C.  $20^\circ$

D.  $40^\circ$

**Answer: A**



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### Additional Problems For Practice

1. Rainfall (in cm) recorded in 50 cities on a particular day. Find the mean rainfall by direct method.

<b>Rainfall (in cm)</b>	36 - 40	40 - 44	44 - 48	48 - 52	52 - 56	56 - 60	60 - 64
<b>No. of cities</b>	6	7	10	7	7	9	4



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2. The following table shows the frequency distribution of the time required for each worker to complete a work. From the table find the

mean time required to complete the job for a worker.

<b>Time (Hrs.) for each to complete the work</b>	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39
<b>No. of workers</b>	10	15	12	8	5

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3. The percentage of marks of 50 students in a test is given in the following table. Find the mean of the percentage.

<b>Percentage of marks</b>	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100
<b>No. of students</b>	3	7	15	20	5

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4. The maximum temperatures in  $^{\circ}C$  of 30 towns, in the last summer, is shown in the following table. Find the mean of the maximum temperatures.

<b>Max. temp.</b>	24 – 28	28 – 32	32 – 36	36 – 40	40 – 44
<b>No. of towns</b>	4	5	7	8	6

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5. For a certain frequency distribution, the value of Assumed mean ( $A$ ) = 1300,  $\sum f_i d_i = 900$  and  $\sum f_i = 100$ . Find the value of mean ( $\bar{X}$ ).

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6. Find the mean by assumed mean method.

<b>Class</b>	10 - 16	16 - 22	22 - 28	28 - 34	34 - 40
<b>Frequency</b>	1	10	5	3	6

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7. Find the mean by assumed mean method.

<b>Weekly wages (₹)</b>	80 - 100	100 - 120	120 - 140	140 - 160	160 - 180
<b>No. of workers</b>	20	30	20	40	90

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8. Frequency distribution of daily commission received by 100 salesman is given below:

Daily commission (in ₹)	No. of salesman
100 – 120	20
120 – 140	45
140 – 160	22
160 – 180	09
180 – 200	04

Find mean daily commission received by salesman, by assumed mean method.

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9. The following table shows the frequency table of daily wages of 50 workers in a trading company. Find the mean wages of a worker, by assumed mean method.

Daily Wages (₹)	200 – 240	240 – 280	280 – 320	320 – 360	360 – 400
Frequency (No. of workers)	5	10	15	12	8

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10. Below is the distribution of money (in Rs) collected by students for flood relief fund. Find mean of money collected by the students using step deviation method:

Amount (₹)	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
No. of Students	5	2	6	5	7

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11. Below is the given frequency distribution of words in an essay. Find the mean number of words written using step deviation method.

Number of Words	600 – 800	800 – 1000	1000 – 1200	1200 – 1400	1400 – 1600
Number of Candidates	14	22	30	18	16

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12. Find the median

Class	6 – 10	11 – 15	16 – 20	21 – 25	26 – 30
Frequency	20	30	50	40	10

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13. Find the median

Weight (in kg)	30 – 35	35 – 40	40 – 45	45 – 50	50 – 55	55 – 60
No. of students	12	18	22	27	10	11



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14. The following is the distribution of the size of certain farms from a taluka (tehsil) :

Size of Farms (in acres)	Number of Farms
5 – 15	7
15 – 25	12
25 – 35	17
35 – 45	25
45 – 55	31
55 – 65	5
65 – 75	3

Find median size of farms.



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15. Find the median. The table below gives the weights of 85 strawberry.

<b>Weight (gms)</b>	110–119	120–129	130–139	140–149	150–159	160–169	170–179	180–189
<b>No. of strawberries</b>	5	8	12	18	22	9	7	4



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16. Find the median.

<b>Marks (Out of 25)</b>	0–3	3–6	6–9	9–12	12–15	15–18	18–21	21–24
<b>No. of students</b>	4	11	9	0	0	10	12	7



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17. The following table shows frequency distribution of marks of 100 students of  $10^{th}$  class which they obtained in a practice examination. Find the median of the marks.

<b>Marks in exam</b>	0–20	20–40	40–60	60–80	80–100
<b>No. of students</b>	4	20	30	40	6



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18. Observe the following frequency distribution table. It shows the distances travelled by 60 public transport buses in a day. Find the median of the distance travelled.

Daily distance travelled (in Km)	200 – 209	210 – 219	220 – 229	230 – 239	240 – 249
No. of buses	4	14	26	10	6

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19. The following table shows the ages of persons who visited a museum on a certain day. Find the median age of the persons visiting the museum.

Age (Years)	No. of persons
Less than 10	3
Less than 20	10
Less than 30	22
Less than 40	40
Less than 50	54
Less than 60	71

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20. Find the mode.

<b>Class</b>	0 – 10	10 – 20	20 – 30	30 – 40
<b>Frequency</b>	2	4	9	7

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21. The classification of children according to their ages, playing on a ground is shown in the following table. Find the mode of ages of the children.

<b>Age-group of children (Yrs)</b>	6 – 8	8 – 10	10 – 12	12 – 14	14 – 16
<b>No. of children</b>	43	58	70	42	27

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22. Calculate the mode.

<b>Marks</b>	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
<b>No. of students</b>	4	16	15	20	7	5

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23. Calculate the mode.

<b>Height (in cm)</b>	130-134	135-139	140-144	145-149	150-154	155-159	160-164
<b>No. of students</b>	5	15	28	24	17	10	1

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24. The following frequency distribution table shows the classification of the number of vehicles and the volume of petrol filled in them. Find the mode of the volume.

<b>Petrol filled (Litre)</b>	1-3	4-6	7-9	10-12	13-15
<b>No. of vehicle</b>	33	40	27	18	12

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25. Draw a histogram representing the following distribution.

<b>Class</b>	0-2	2-4	4-6	6-8	8-10
<b>Frequency</b>	4	7	5	5	9

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26. Draw a histogram representing the following distribution.

<b>Class</b>	35 - 45	45 - 55	55 - 65	65 - 75	75 - 85
<b>Frequency</b>	3	6	20	11	4

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27. The marks scored by students in Mathematics in a certain examinations are given below:

<b>Marks Scored</b>	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
<b>Number of students</b>	3	8	15	17	7

Draw histogram for the above data.

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28. Represent the following data by histogram:

<b>Price of sugar per kg (₹)</b>	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38
<b>Number of weeks</b>	4	8	22	12	6

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29. The following is the frequency distribution of waiting time at ATM centre, draw histogram to represent the data:

Waiting time (in seconds)	Number of Customers
0 – 30	15
30 – 60	23
60 – 90	64
90 – 120	50
120 – 150	5

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30. The table below shows the net asset value (NAV) per unit of mutual funds of some companies. Draw a histogram representing the information.

NAV (₹)	8 – 9	10 – 11	12 – 13	14 – 15	16 – 17
No. of mutual funds	20	40	30	25	15

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31. Draw frequency polygon for the following frequency distribution.

Class	Frequency
10 – 20	02
20 – 30	08
30 – 40	10
40 – 50	05
50 – 60	04



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32. The following table shows the weights of children and the number of children. Draw a frequency polygon showing the information.

Weight of children (kg)	18 – 19	19 – 20	20 – 21	21 – 22	22 – 23	23 – 24
No. of children	4	13	15	19	17	6



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33. Answer the following questions based on the frequency polygon given in the figure.

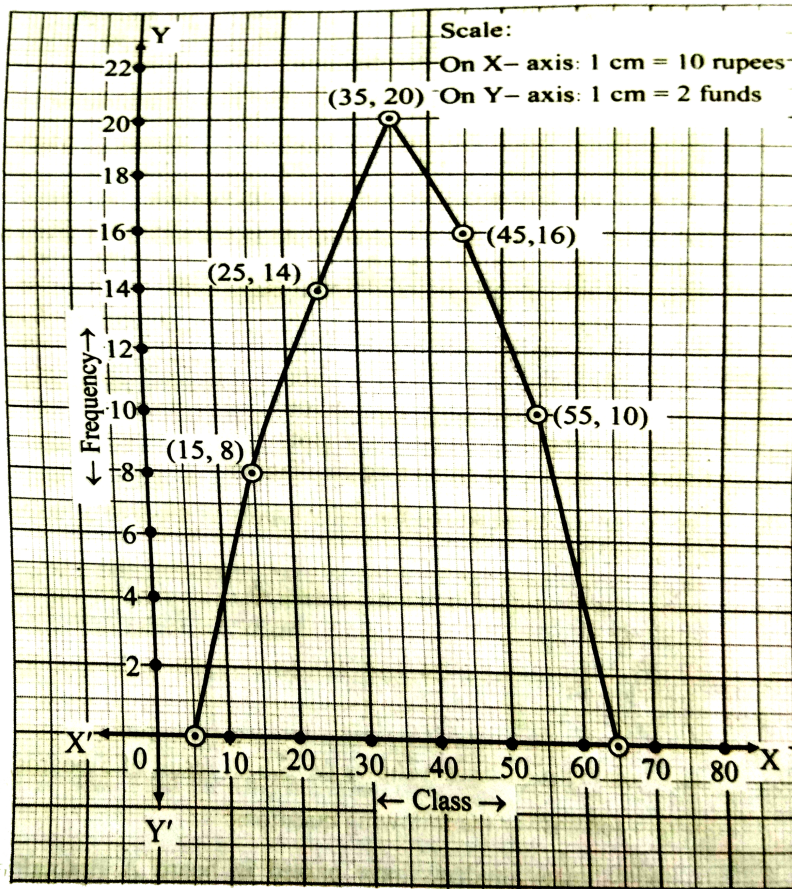
i. Write frequency of the class 50 – 60.

ii. State the class whose frequency is 14.

iii. State the class whose class mark is 55.

iv. Write the class in which the frequency is maximum.

v. Write the classes whose frequencies are zero.



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34. In a bicycle shop, number of bicycles purchased and choice of their colours was as follows. Find the measures of sectors of a circle to show the information by a pie diagram.

Colour	White	Black	Blue	Grey	Red	Total
Number of bicycles	10	9	6	7	4	360

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35. Area under different crops in a certain village is given below :

Represent, it by a pie diagram:

Crop	Jowar	Wheat	Sugarcane	Vegetables
Area in Hectares	40	60	50	30

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36. Area under different crops in a certain village is given below :

Represent, it by a pie diagram:



Crop	Area (in hectares)
Jowar	8000
Wheat	6000
Sugarcane	2000
Vegetables	2000



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37. The number of hours spent by a school boy in different activities in a day is given below:

Activity	Sleep	School	Play	Home-work	Other	Total
No. of Hours	6	7	3	4	4	24

Represent the above information using pie diagram.



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38. The marks obtained by a student in an examination are given below:

Subject	Marathi	Hindi	English	Mathematics	Total
Marks	95	90	95	80	360

Represent the data using pie diagram.



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39. The marks obtained by a student in an examination are given below:

The total marks out of 100 obtained in various subjects are as follows:

Subject	Marks
Marathi	75
English	85
Science	100
Mathematics	100
<b>Total</b>	<b>360</b>

Represent the data using pie diagram.



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40. The following table shows the daily supply of electricity to different places in a town. Show the information by a pie diagram.

Places	Factories	Houses	Roads	Shops	Offices	Others
Supply of electricity (Thousand units)	24	14	7	5	6	4

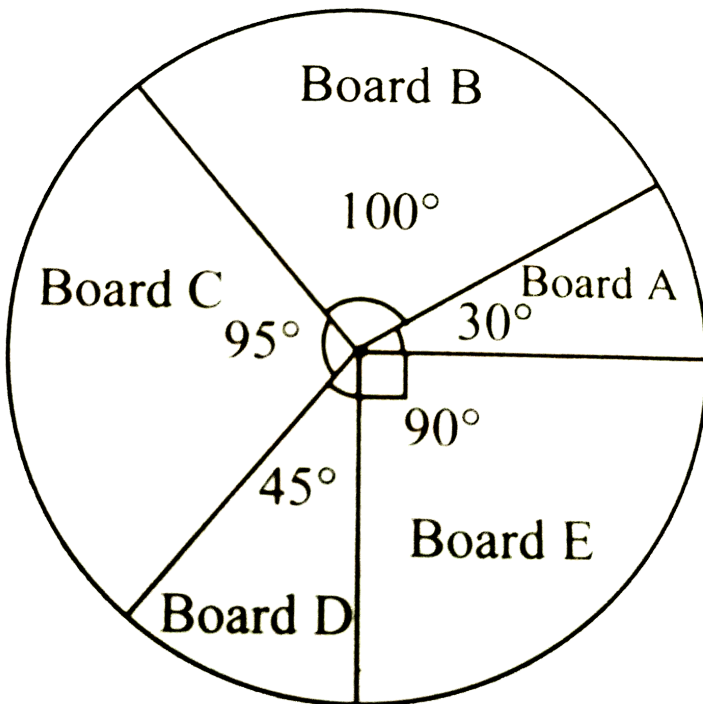


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41. The adjoining pie-diagram shows the S.S.C result of 5 boards. Study the diagram and answer the following questions :

*i.* How many students have passed in board *A* if total number of students appeared was 540000?

*ii.* How many students have passed in board *E* if the total number of students appeared was 100000 ?



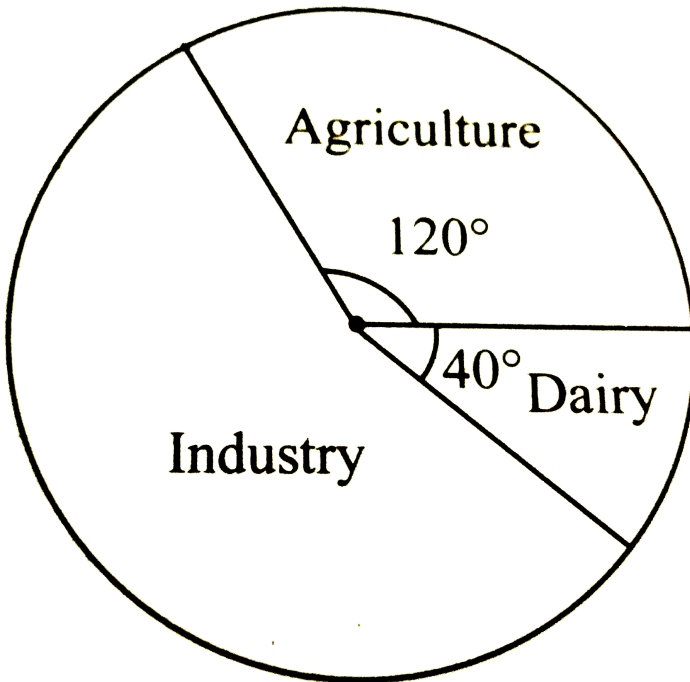
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42. The following pie diagram represents the sectorwise loan amount in crores of rupees distributed by a bank. From the information answer the following questions:

i. If the dairy sector receives  $Rs20$  crores, then find the total loan disbursed.

ii. Find the loan amount for agriculture sector and also for industrial sector.

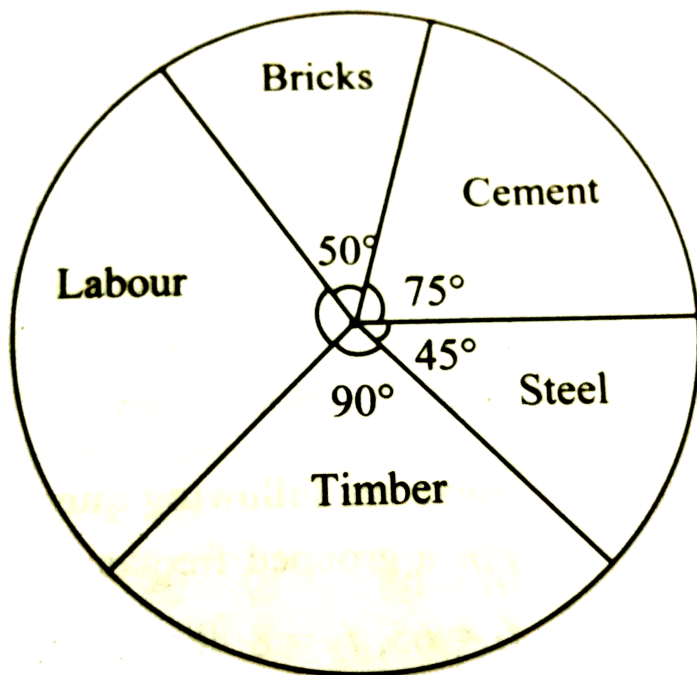
iii How much additional amount did industrial sector receive than agriculture sector?



43. The following pie diagram represents expenditure on different items in constructing a building.

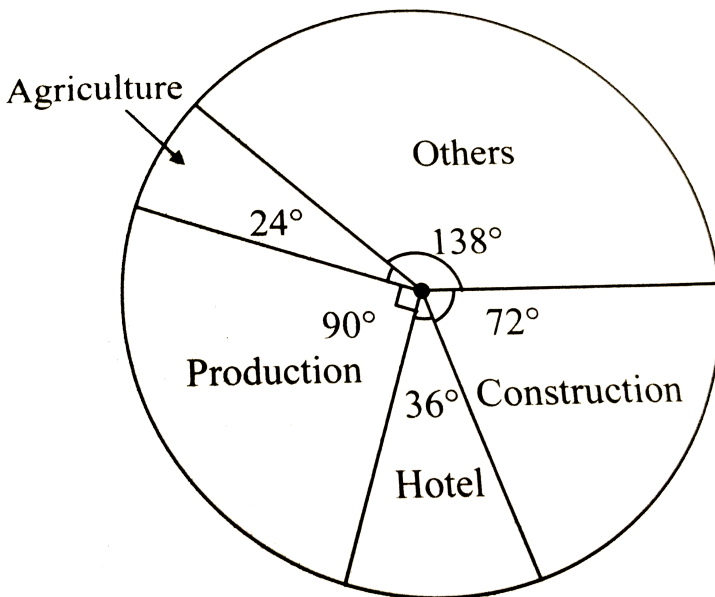
If the total construction cost of building is  $Rs540000$  answer the following questions:

- i. Find the central angle for labour expenditure.
- ii. Find the expenditure on labour.



44. As deduced from a survey, the classification of skilled workers is shown in the pie diagram. If the number of workers in the production sector is 4500, answer the following questions.

- i. What is the total number of skilled workers in all fields?
- ii. What is the number of skilled workers in the field of constructions ?
- iii. How many skilled workers are in agriculture?
- iv. Find the difference between the number of workers in the field of production and construction.



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1. The heights (in cm) of 50 students of a class are given below

Find the median height

Height (in cm)	156	154	155	151	157	152	153
Number of students	8	4	10	6	7	3	12



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2. The lengths of 40 leaves of a plant are measured correct to the nearest millimetre, and the data obtained is represented in the following table :

Find the median length of the leaves. (Hint: The data needs to be converted to continuous classes for



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3. Find the mean weight of 20 students in your class.



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4. Find the mode of sizes of shirts of students in your class.

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5. Every student in your class should measure his/her own pulse rate.

Note the pulse rates of all students and find the mode of the pulse rate.

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## Chapter Assessment

1. If the assumed mean,  $A = 45$  and  $\bar{d} = 9$ , then the value of  $\bar{X}$  is \_\_\_\_\_.

A. 54

B. 36

C. - 54



D. – 36

**Answer: A**



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2. The class width and class mark of the class 10.5 – 12.5 are \_\_\_\_\_ and \_\_\_\_\_ respectively.

A. 2, 11

B. 2, 11.5

C. 10, 11

D. 10, 11.5

**Answer: B**



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3. The Median class of the data given below is \_\_\_\_\_.

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
Frequency	6	8	16	4	2

A. 10 – 20

B. 20 – 30

C. 30 – 40

D. 40 – 50

**Answer: B**



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4. In a pie diagram, the measure of central angle of the amount spent on education is  $30^\circ$ . If Rs900 was spent on education, then what is the total expenditure?

A. Rs10800

B. Rs108000

C.  $Rs5400$

D.  $Rs54000$

**Answer: A**



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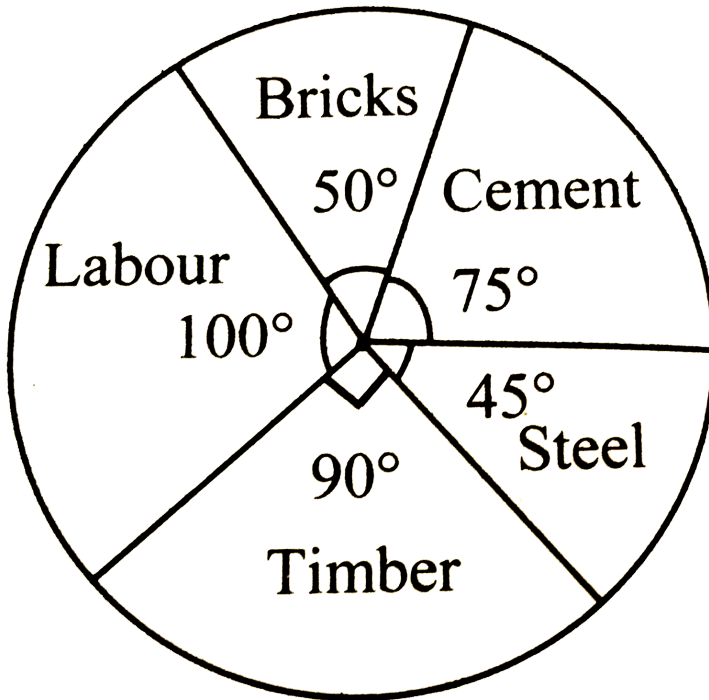
5. For a grouped frequency distribution if  $L = 60$ ,  $f_0 = 47$ ,  $f_1 = 65$ ,  $f_2 = 8$ ,  $h = 20$ , then find the mode for the given data.



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6. The adjacent pie diagram represents expenditure on different items in constructing a building. If the expenditure on bricks is  $Rs75000$ , find the

total expenditure and expenditure on labour.



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7. The monthly expenditure of a family on different items is given in the following table. Calculate the related central angles.

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8. The following table shows frequency distribution of marks secured by 100 students in a particular examination. Find the mean of the marks.

Marks secured	0 – 20	20 – 40	40 – 60	60 – 80
No. of students	10	30	20	40



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9. Draw the Histogram for the following frequency distribution.

House Rent (₹ per month)	400-600	600-800	800-1000	1000-1200
Number of families	200	240	300	50



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10. Below is the distribution of money (in Rs) collected by students for flood relief fund. Find mean of money collected by the students using step deviation method:

Amount (₹)	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40
No. of students	3	6	4	5	9	3



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11. The following table shows ages of 200 patients (in years) and the number of patients getting medical treatment on a particular day in a hospital in a day.

Age (in years)	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
No. of patients	12	36	50	38	22	42

Find the median age of a patient.



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12. 50 persons were examined for their Haemoglobin % in blood (in mg per 100ml) and the results were grouped as below:

Haemoglobin % (mg/100ml)	13.1 – 14	14.1 – 15	15.1 – 16	16.1 – 17	17.1 – 18
No. of Persons	14	18	6	7	5

Find mode of haemoglobin % in blood of a person.



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13. Calculate the mean of daily income (in Rs) of the following data about men working in a company by using step deviation method.

Daily income (in ₹)	Less than 100	Less than 200	Less than 300	Less than 400	Less than 500
Number of men	12	28	34	41	50

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14. The following tale gives the result of certain examination for 180 students. Find the value of  $x$  and draw histogram.

Marks	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No. of students	10	$x$	25	$2x$	55	30

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15. The following table shows the ages of persons who visited a museum on a certain day. Find the median age of the persons visiting the museum.

Age (Years)	No. of persons
Less than 10	3
Less than 20	10
Less than 30	22
Less than 40	40
Less than 50	54
Less than 60	71

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## Practise Set 6 1

1. The following table shows the number of students and the time they utilized daily for their studies. Find the mean time spent by students for their studies by direct method.

<b>Time (hrs.)</b>	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10
<b>No. of students</b>	7	18	12	10	3



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2. In the following table, the toll paid by drivers and the number of vehicles is shown. Find the mean of the toll by 'assumed mean' method.

<b>Toll (₹)</b>	300 - 400	400 - 500	500 - 600	600 - 700	700 - 800
<b>No. of vehicles</b>	80	110	120	70	40



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3. A milk centre sold milk to 50 customers. The table below gives the number of customers and the milk they purchased. Find the mean of the milk sold by direct method.

<b>Milk Sold (Litre)</b>	1 – 2	2 – 3	3 – 4	4 – 5	5 – 6
<b>No. of Customers</b>	17	13	10	7	3



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4. A frequency distribution table for the production of oranges of some farm owners is given below. Find the mean production of oranges by 'assumed mean' method.

<b>Production (Thousand rupees)</b>	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50
<b>No. of farm owners</b>	20	25	15	10	10



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5. A frequency distribution of funds collected by 120 workers in a company for the drought affected people are given in the following table.

Find the mean of the funds by 'step deviation' method.

<b>Fund (₹)</b>	0 – 500	500 – 1000	1000 – 1500	1500 – 2000	2000 – 2500
<b>No. of workers</b>	35	28	32	15	10

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6. The following table gives the information of frequency distribution of weekly wages of 150 workers of a company. Find the mean of the weekly wages by 'step deviation' method.

<b>Weekly wages (₹)</b>	1000 – 2000	2000 – 3000	3000 – 4000	4000 – 5000
<b>No. of workers</b>	25	45	50	30

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## Practise Set 6 2

1. The following table shows classification of number of workers and the number of hours they work in a software company. Find the median of the number of hours they work.

<b>Daily No. of hours</b>	8 – 10	10 – 12	12 – 14	14 – 16
<b>Number of workers</b>	150	500	300	50



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2. The frequency distribution table shows the number of mango trees in a grove and their yield of mangoes. Find the median of data.

No. of Mangoes	50 – 100	100 – 150	150 – 200	200 – 250	250 – 300
No. of trees	33	30	90	80	17



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3. The following table shows the classification of number of vehicles and their speeds on Mumbai-Pune express way. Find the median of the data.

Average Speed of Vehicles (Km/hr)	60 – 64	65 – 69	70 – 74	75 – 79	80 – 84	85 – 89
No. of vehicles	10	34	55	85	10	6



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4. The production of electric bulbs in different factories is shown in the following table. Find the median of the productions.

No. of bulbs produced (Thousands)	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90	90 – 100
No. of factories	12	35	20	15	8	7	8



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### Practise Set 6 3

1. The following table shows the information regarding the milk collected from farmers on a milk collection centre and the content of fat in the milk, measured by a lactometer. Find the mode of fat content.

<b>Content of fat (%)</b>	2 – 3	3 – 4	4 – 5	5 – 6	6 – 7
<b>Milk collected (Litre)</b>	30	70	80	60	20



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2. Electricity used by some families is shown in the following table. Find the mode of use of electricity.

<b>Use of electricity (Unit)</b>	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100	100 – 120
<b>No. of families</b>	13	50	70	100	80	17



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3. Grouped frequency distribution of supply of milk to hotels and the number of hotels is given in the following table. Find the mode of the supply of milk.

Milk (Litres)	1 - 3	3 - 5	5 - 7	7 - 9	9 - 11	11 - 13
No. of hotels	7	5	15	20	35	18

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4. The following frequency distribution table gives the ages of 200 patients treated in a hospital in a week. Find the mode of ages of the patients.

Age (years)	Less than 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29
No. of patients	38	32	50	36	24	20

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Practise Set 6 4

1. Draw a histogram of the following data.

<b>Height of student (cm)</b>	135 – 140	140 – 145	145 – 150	150 – 155
<b>No. of students</b>	4	12	16	8

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2. The table below shows the yield of jowar per acre. Show the data by histogram.

<b>Yield per acre (quintal)</b>	2 – 3	4 – 5	6 – 7	8 – 9	10 – 11
<b>No. of farmers</b>	30	50	55	40	20

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3. In the following table, the investment made by 210 families is shown. Present it in the form of a histogram.

<b>Investment (Thousand Rupees)</b>	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35
<b>No. of families</b>	30	50	60	55	15

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4. Time allotted for the preparation of an examination by some students is shown in the table. Draw a histogram to show the information.

Time (minutes)	60 - 80	80 - 100	100 - 120	120 - 140	140 - 160
No. of students	14	20	24	22	16



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### Practise Set 6 5

1. Observe the following frequency polygon and write the answers of the questions below it.

*i.* Which class has the maximum number of students?

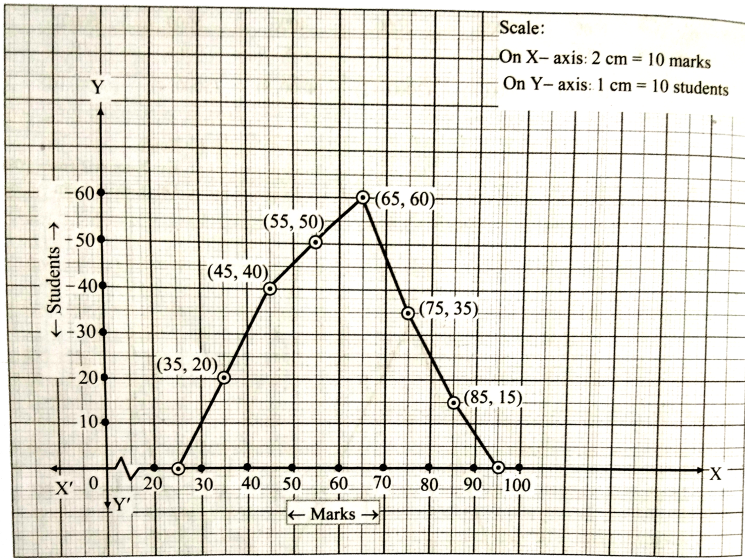
*ii.* Write the classes having zero frequency.

*iii.* What is the class mark of the class, having frequency of 50 students ?

*iv.* Write the lower and upper class limits of the class whose class mark is

85.

v. How many students are in the class 80 – 90?



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2. Show the following data by a frequency polygon.

Electricity bill (₹)	0 – 200	200 – 400	400 – 600	600 – 800	800 – 1000
Families	240	300	450	350	160

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1. The age group and number of persons, who donated blood in a blood donation camp is given below. Draw a pie diagram from it.

Age group (Yrs)	20 – 25	25 – 30	30 – 35	35 – 40
No. of persons	80	60	35	25

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2. The marks obtained by a student in different subjects are shown. Draw a pie diagram showing the information.

Subject	English	Marathi	Science	Mathematics	Social science	Hindi
Marks	50	70	80	90	60	50

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3. In a tree plantation programme, the number of trees planted by students of different classes is given in the following table. Draw a pie diagram showing the information.

Standard	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>
No. of trees	40	50	75	50	70	75

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4. The following table shows the percentages of demands for different fruits registered with a fruit vendor. Show the information by a pie diagram.

Fruits	Mango	Sweet lime	Apples	Chikoo	Oranges
Percentages of demand	30	15	25	20	10



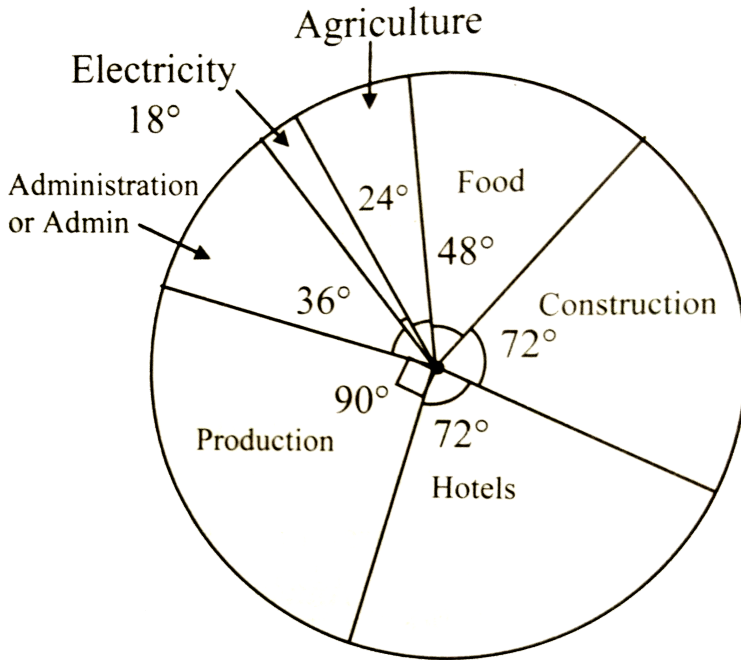
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5. The pie diagram in the given figure shows the proportions of different workers in a town. Answer the following questions with its help.

*i.* If the total workers is 10000, how many of them are in the field of construction?

*ii.* How many workers are working in the administration?

iii. What is the percentage of workers in production



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6. The annual investments of a family are shown in the given pie diagram.

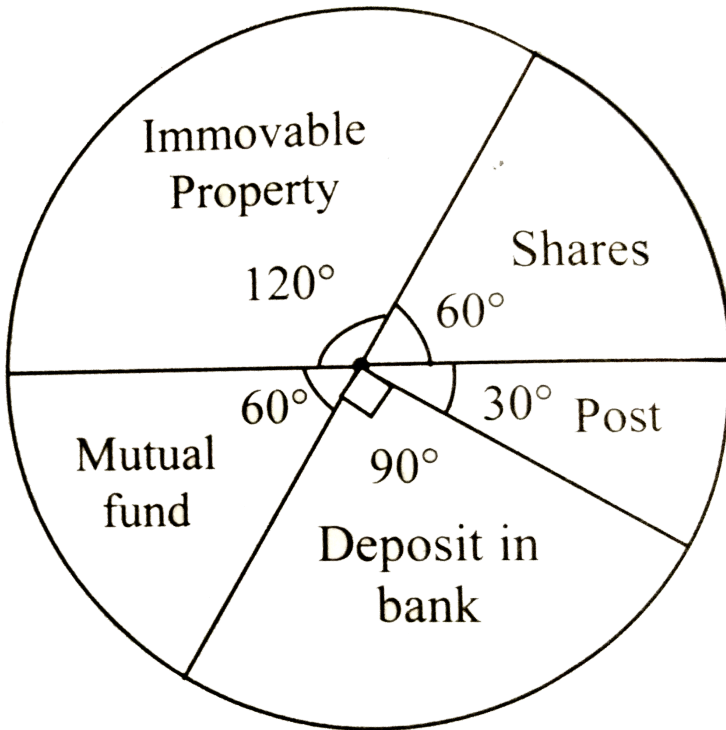
Answer the following questions based on it.

i. If the investment in shares is  $Rs2000$ , find the total investment.

ii. How much amount is deposited in bank?

iii. How much more money is invested in immovable property than in mutual fund?

iv. How much amount is invested in post?



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## Problem Set 6

1. Choose the correct alternative among the following :

The persons of O-blood group are 40 % . The classification of persons

based on blood groups is to be shown by a pie diagram .what should be the measures of angle for the persons of O -blood group ?

A.  $114^\circ$

B.  $140^\circ$

C.  $104^\circ$

D.  $144^\circ$

**Answer: D**



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2. Different expenditures incurred on the construction of a building were shown by a pie diagram. The expenditure of  $Rs45000$  on current was shown by a sector of central angle of  $75^\circ$ . What was the total expenditure of the construction?

A. 216000

B. 360000

C. 450000

D. 750000

**Answer: A**



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3. Cumulative frequencies in a grouped frequency table are useful to find\_\_\_\_\_.

A. Mean

B. Median

C. Mode

D. All of these

**Answer: B**



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4. In the formula  $\bar{x} = a + h \frac{\sum f_i u_i}{\sum f_i}$

for finding the mean of grouped frequency distribution  $u_i$  is equal to

A.  $\frac{x_i + A}{g}$

B.  $(x_i - A)$

C.  $\frac{x_i - A}{g}$

D.  $\frac{A - x_i}{g}$

Answer: C



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5.

Distance Covered per litre (km)	12 - 14	14 - 16	16 - 18	18 - 20
No. of cars	11	12	20	7

The median of the distances covered per litre shown in the above data is in the group\_\_\_\_\_.

A. 12 - 14

B. 14 - 16

C. 16 – 18

D. 18 – 20

**Answer: C**



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6.

<b>No. of trees planted by each student</b>	1 – 3	4 – 6	7 – 9	10 – 12
<b>No. of students</b>	7	8	6	4

The above data is to be shown by a frequency polygon. The coordinates of the points to show number of students in the class 4 – 6 are \_\_\_\_\_ .

A. (4, 8)

B. (3, 5)

C. (5, 8)

D. (8, 4)

**Answer: C**



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7. The following table shows the income of formers in a grape season.

Find the mean of their income.

Income (Thousand Rupees)	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Farmers	10	11	15	16	18	14



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8. The loans sanctioned by a bank for construction of farm ponds are shown in the following table. Find the mean of the loans.

Loan (Thousand rupees)	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
No. of farm ponds	13	20	24	36	7



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9. The weekly wages of 120 workers in a factory are shown in the following frequency distribution table . Find the mean of the weekly wages.

Weekly wages (₹)	0 – 2000	2000 – 4000	4000 – 6000	6000 – 8000
No. of workers	15	35	50	20



10. The following frequency distribution table shows the amount of aid given to 50 flood affected families. Find the mean of the amount of aid.

<b>Amount of aid (Thousand rupees)</b>	50 – 60	60 – 70	70 – 80	80 – 90	90 – 100
<b>No. of families</b>	7	13	20	6	4

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11. The distances covered by 250 public transport buses in a day is shown in the following frequency distribution table. Find the median of the distances.

<b>Distance (km)</b>	200 – 210	210 – 220	220 – 230	230 – 240	240 – 250
<b>No. of buses</b>	40	60	80	50	20

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12. The prices of different articles and demand for them is shown in the following frequency distribution table. Find the median of the prices.

Price (₹)	Less than 20	20 - 40	40 - 60	60 - 80	80 - 100
No. of articles	140	100	80	60	20

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13. The following frequency table shows the demand for a sweet and the number of customers. Find the mode of demand of sweet.

Weight of sweet (gram)	0 - 250	250 - 500	500 - 750	750 - 1000	1000 - 1250
No. of customers	10	60	25	20	15

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14. Draw a histogram for the following frequency distribution

Use of electricity (unit)	50 - 70	70 - 90	90 - 110	110 - 130	130 - 150	150 - 170
No. of families	150	400	460	540	600	350

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15. The time required for some students to complete a science experiment and the number of students is shown in the following

grouped frequency distribution table. Draw the frequency polygon with

the help of histogram using given information :

Time required for experiment ( minutes)	20 – 22	22 – 24	24 – 26	26 – 28
Number of students	6	14	20	16



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16. Draw a frequency polygon for the following grouped frequency distribution table.

Age of the donor (Yrs.)	20 – 24	25 – 29	30 – 34	35 – 39	40 – 44	45 – 49
No. of blood donors	38	46	35	24	15	12

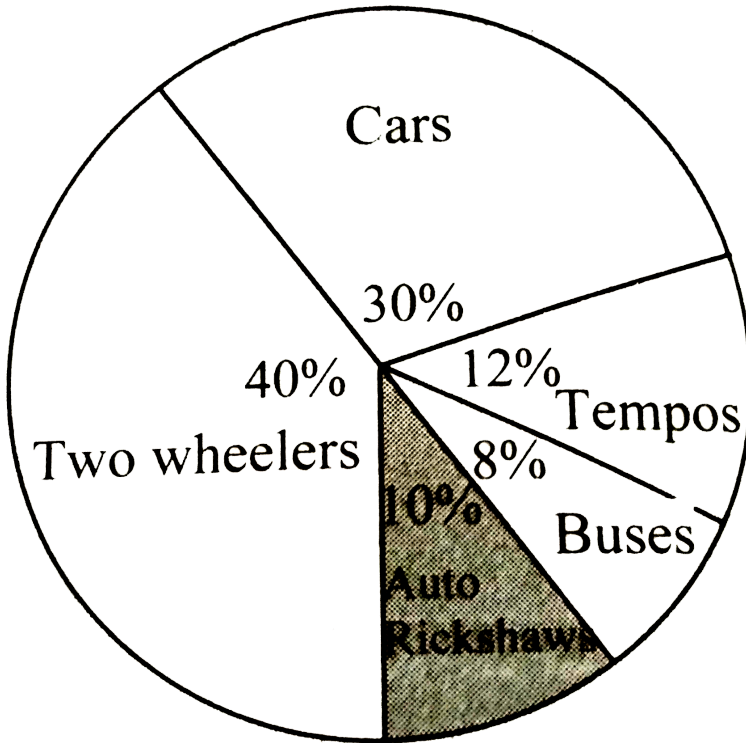


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17. Observe the given pie diagram. It shows the percentages of number of vehicles passing a signal in a town between 8am and 10 am.

i. Find the central angle for each type of vehicle.

ii. If the number of two-wheelers is 1200, find the number of all vehicles.



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18. The following table shows causes of noise pollution. Show it by a pie diagram.

Construction	Traffic	Aircraft take offs	Industry	Trains
10%	50%	9%	20%	11%



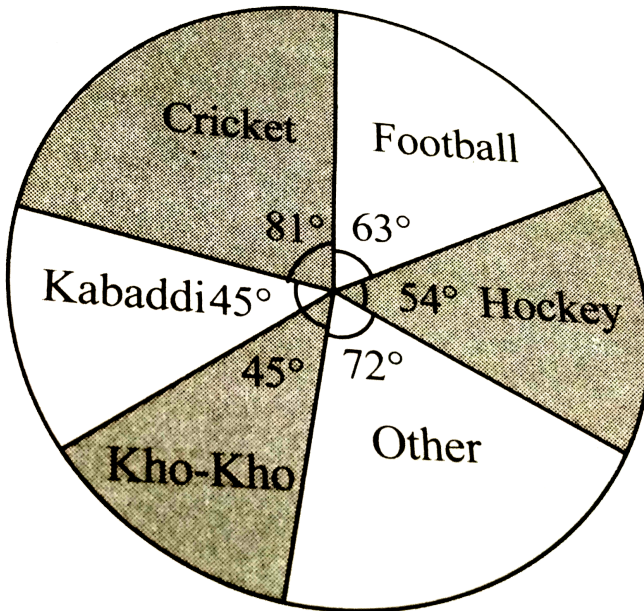
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19. A survey of students was made to know which game they like. The data obtained in the survey is presented in the given pie diagram. If the total number of students are 1000.

i. How many students like cricket?

ii how many students like football?

iii how many students prefer other games?



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20. Medical check up of 180 woman was conducted in a health centre in a village. 50 of them were short of haemoglobin , 10 suffered from cataract and 25 had respiratory disorders. The remaining woman were healthy . Show the information by a pie diagram.

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21. On an environment day, students in a school planted 120 trees under plantation project. The information regarding the project is shown in the following table. Show it by a pie diagram.

Tree name	Karanj	Behada	Arjun	Bakul	Kadunimb
No. of trees	20	28	24	22	26

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