MATHS

BOOKS - MODERN PUBLICATION

STATISTICS

Example

1. The following data gives the number of children in 15 families of a locality.

1,1,2,3,1,5,3,2,4,1,1,2,4,3,1,1

Calculate the array of above data and construct a frequency as below.

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2. The following data gives the marks out of 50, obtained by 11 students

of a class in a test

32,23,22,18,42,18,20,17,12,9,11

Arrange them in ascending order and present it as a completed data

In exclusive form.

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3. The following data gives the marks out of 50, obtained by 25 students

of a class in a test

32,23,22,18,42,18,20,17,12,9,11

Arrange them in ascending order

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4. The marks obtained by 35 students of class IX of a school are given as

below:

17,9,11,9,15,11,4,22,1,17,24,3,11,20,12,9,7,0,5,3,5,13,21,13,15,20,24,1,7,21,22,10,13,18,24.

present the data in the form of a frequency distributions, using same class size, starting with class 0-5

5. The class marks of a distributions are:

37,42,47,52,57,62,67,72,77,82,87,92

find the class size, the limits and true class limits.

6. Construct a frequency distribution table with class size 10 of the following data

184,144,195,130,134,132,114,196,174,212,210,188,202,145,154,175,178,146,166,

115,135,114, 126,188,140, 166,176,208,210

7. The weight of 50 apples form a consignement are as below

113,131,75,82,204,81,84,118,110,104,107,80,141,111,143,136,78,.90,110,98,106,

99,84,107,186,76,82,109,100,115,125,107,115,93,119,89,87,139,129,130,68,73,

195,111,125,85,92,126,70,75. form the grouped frequency table by dividing

the variable range into intervals of equal width of 20 g so that the mid

vlaue of the first class intervals is 70 g.

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8. In an examination, the marks obtained by 32 students are as below:

290,370,175,318,410,378,405,370,380,315,305,325,275,288,241,261,355,402,380,428

form a commulative frequency table with class intervals of length 50.

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9. A commulative frequency distributions if given below. Convert this into

a frequency distribution table

Marks	Number of Students
Below 45	0
Below 60	10
Below 75	25
Below 90	45
Below 105	96
Below 120	118

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10. The following table gives the number of students in IX class in a school during the academic years 2012-2013 to 2016-17

Academic Year	Number of Students
2012-13	100
2013-14	125
2014-15	200
2015-16	250
2016-17	300

Represent the above data by a bar graph.

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11. 600 students of a school use different mode of transport to go to

school s below

Mode of Transport	No. of Students
Bicycle	150
Rickshaw	100
Motor cycle	125
Bus	175
Car	50

Draw the bar graph representing the above data.

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12. A family with normally income of Rs.40,000 had planned the following

expenditure per month under following heads:

Heads	Expenditure (in ₹ 1000)
Rent	6
Grocery	7
Medicine	3
Education of children	6
Clothing	5
Entertainment	3
Miscellaneous	8
Savings	2

Draw a bar graph for the above data.

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13. In a particular section of class IX, 40 students were asked about the months of their birth and following graph was prepared for the above data so obtained
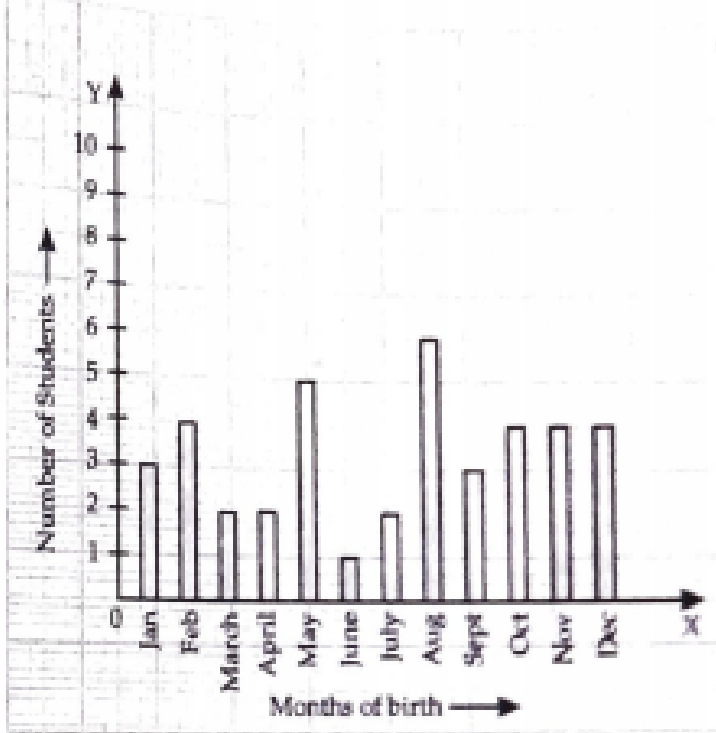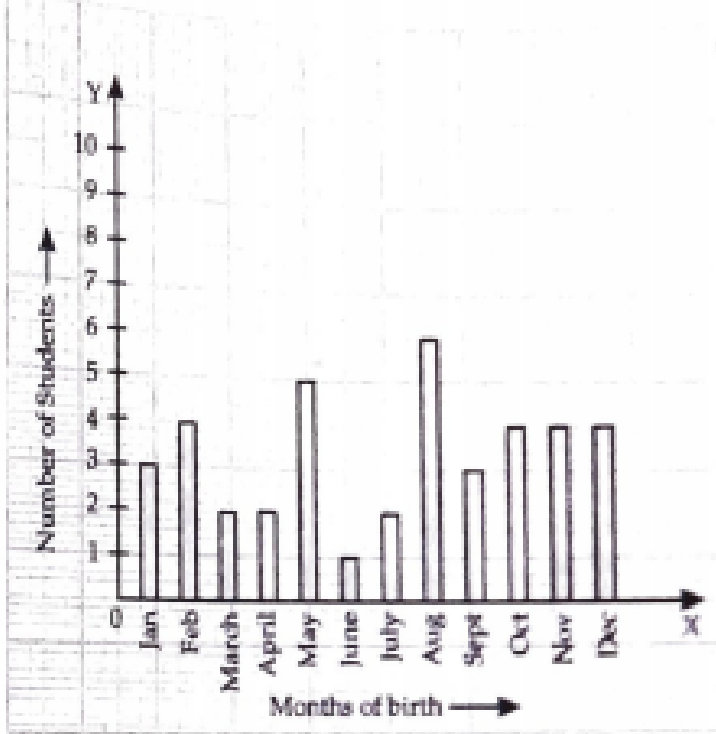
Months of birth ⟶

How many students were born in the month of October?

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14. In a particular section of class IX, 40 students were asked about the months of their birth and following graph was prepared for the above data so obtained
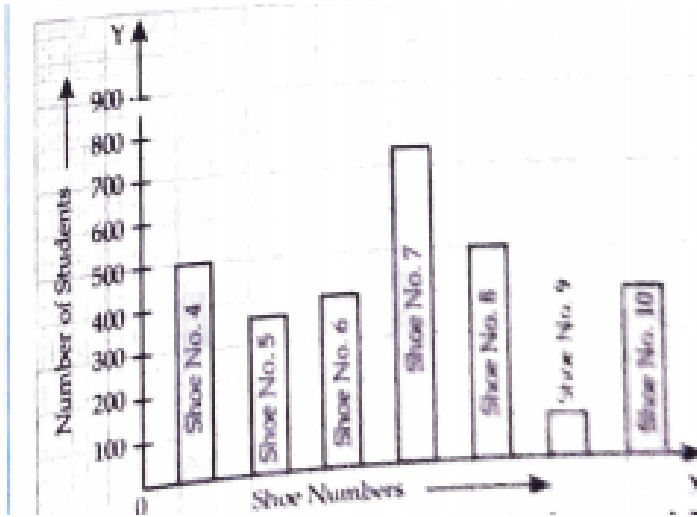
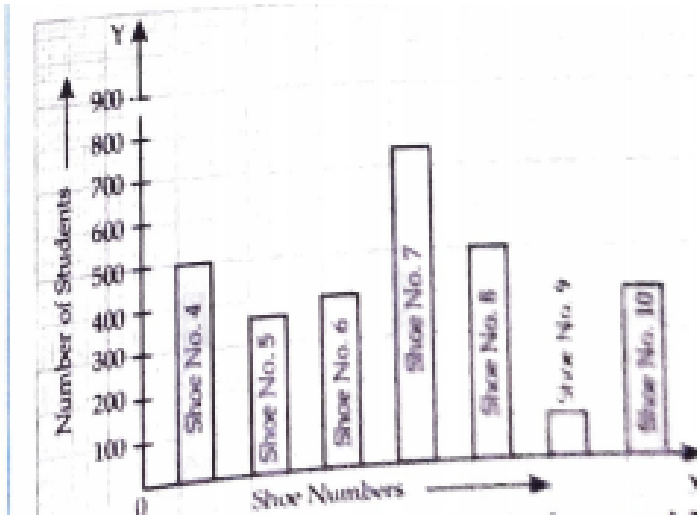In which month were the maximum number of students born?

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15. Read the bar graph shown in fig. and answer the following questions

What is the number of students wearing shoe NO. 5?

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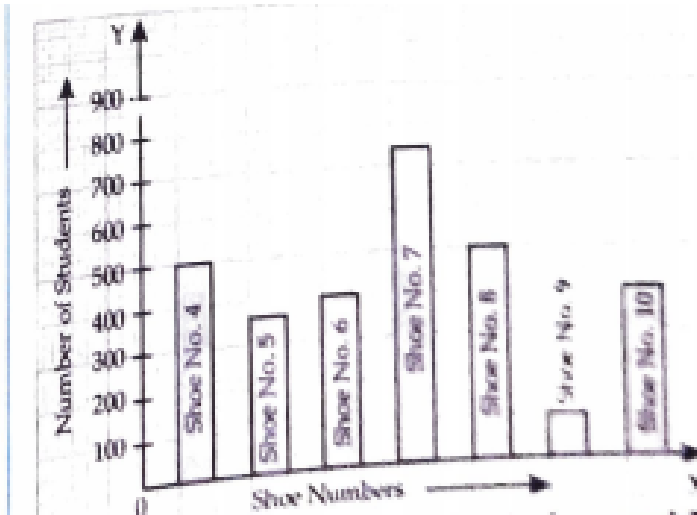**16.** Read the bar graph shown in fig. and answer the following questions

Which shoe number is worn by the maximum number of students? Also give its number.

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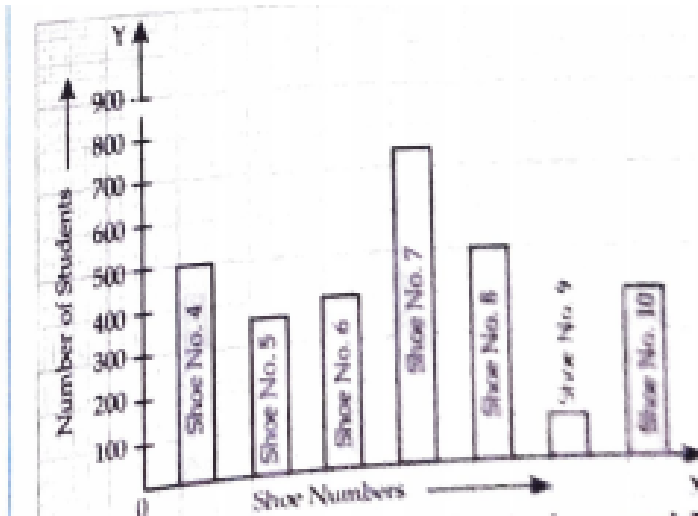**17.** Read the bar graph shown in fig. and answer the following questions

Which shoe number is worn by the minimum number of students? Also give the number.

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18. Read the bar graph shown in fig. and answer the following questions

State whethe true or false

The number of students wearing shoe no. 10 is less than three times the number of students wearing shoe no. 8.

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19. After reading the bar graph given below answer the following questions
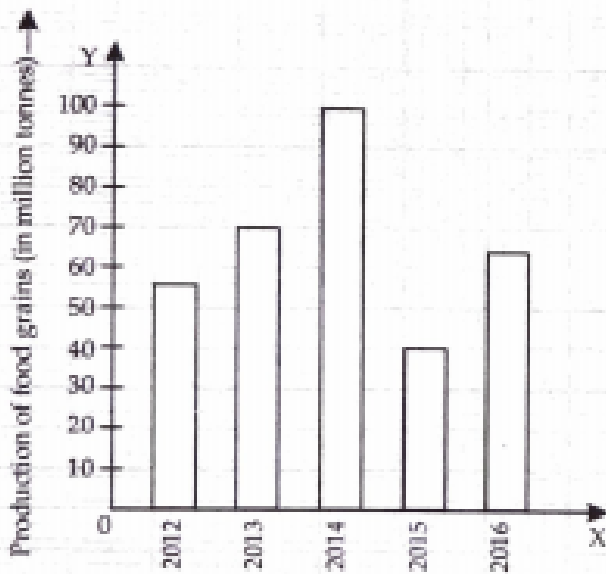
Production of food grains in an Indian State during 5 consecutive years

what information is given by the bar graph?

20. After reading the bar graph given below

answer the following questions

Production of food grains in an Indian State during 5 consecutive years

In which year was the productions maximum?

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21. After reading the bar graph given below

answer the following questions

Production of food grains in an Indian State during 5 consecutive years

After which year was there a sudden fall in the production?

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22. After reading the bar graph given below

answer the following questions
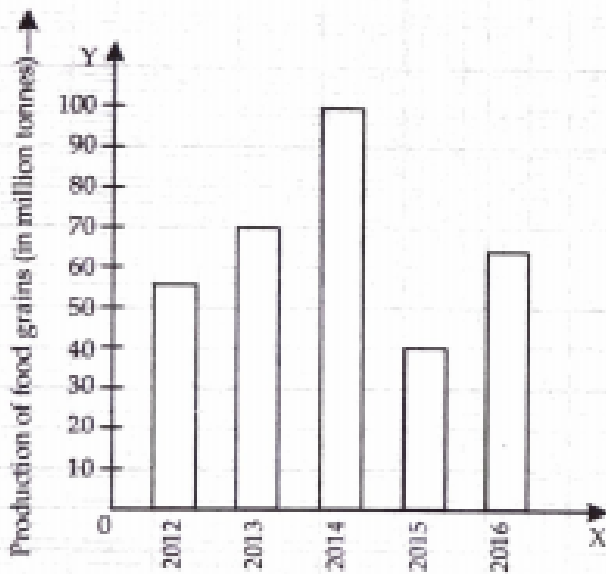
Production of food grains in an Indian State during 5 consecutive years

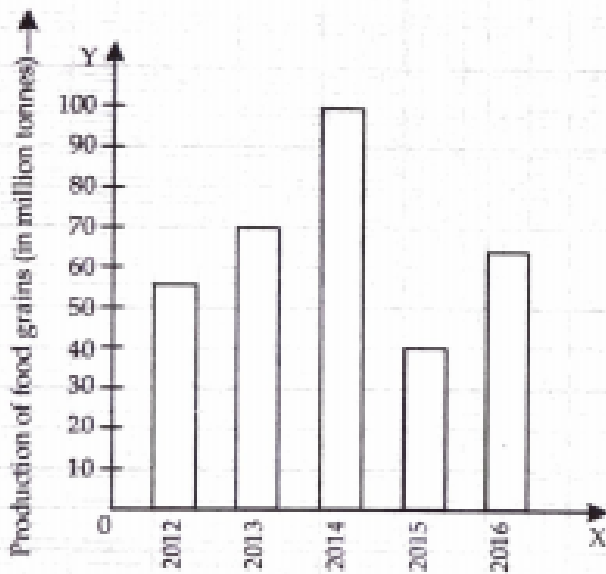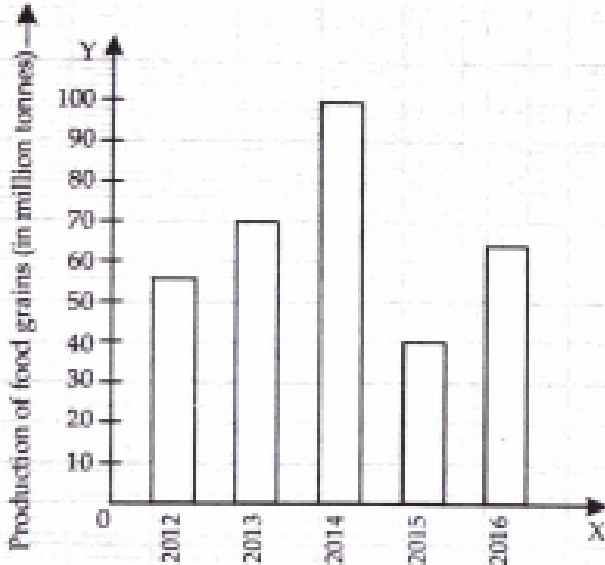find the ratio between the maximum production and the minimum production during the given period.

23. The results of pass percentage of class X and class XII in CBSE examination for 5 years are given in the following table:

Year	2005-06	2006-07	2007-08	2008-09	2009-10
X	90	95	90	80	98
XII	95	80	85	90	95

Draw bar graphs so as to represent the above data.

24. Represent the following frequency distribution by means of a histogram:

Marks	10-20	20-30	30-40	40-50	50-60	60-70
Number of Students	6	15	10	18	16	5

25. The following table presents the number of literate males in a town:

Age-Group	Number of Males
10-15	400
15-20	980
20-25	800
25-30	580
30-35	290
35-40	50

Draw a histogram to represent the above data.

26. Represent the following frequency distribution by means of a histogram:

Weight (in kg.)	Number of Persons
50-55	12
55-60	9
60-65	6
65-70	5
70-75	7
75-80	8
80-85	6
85-90	4

27. Draw a histogram for the following data:

Class-Interval	Frequency
35-39	10
40-44	15
45-49	23
50-54	20
55-59	9
60-64	7

inclusive

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28. Draw a histogram to represent the following frequency distribution

Class-Interval	Frequency
10-15	6
15-20	10
20-30	10
30-50	8
50-60	18

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29. Draw a histogram from the following distributions obtained by 55 students of IX class in the examination

Marks (Mid-point)	Number of Students (Frequency)
150	6
160	8
170	23
180	10
190	5
200	3

30. Draw a histogram and a frequency polygon in represent the following data, which shows the montly cost of living index of a city in a period of 2

years

Cost of living index	Number of months
440-460	2
460-480	4
480-500	3
500-520	5
520-540	3
540-560	2
560-580	1
580-600	4
Total	24

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31. Construct a frequency polygon for the following data:

Age (in years)	Frequency
0-2	2
2-4	4
4-6	6
6-8	8
8-10	9
10-12	6
12-14	5
14-16	3
16-18	1

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32. The daily pocket expenses of 206 students in a school are given below

Pocket expenses (in ₹)	Number of Students (Frequency)
0-5	10
5-10	16
10-15	30
15-20	42
20-25	50
25-30	30
30-35	16
35-40	12

construct a fequency polygon representing the above data.

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33. The heights of four players are

152 cm, 140 cm, 148 cm and 156 cm, find the mean height of players.

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34. Find the arithmetic mean of first 8 natural numbers.

35. Find the arithmetic mean of first ten even natural numbers.

36. If the mean of x, x+2, x+4, x+6 and x+8 is 13, find x.

37. The mean of 40 numbers was found to be 35. Later on, it was detecte that a number 56 was misread as 36. find the correct mean of the given numbers.

38. The mean of first 8 observations is 18 and last 8 observations is 20. if the mean of all 15 observations is 19, find the 8th observations.

39. If the mean of n observatoins:

$ax_1, ax_2, \ldots\ldots\ldots\ldots ax_n$ is $a\bar{x}$,

Show that $(ax_1 - a\bar{x}) + (ax_2 - a\bar{x}) + \ldots\ldots\ldots + (ax_n - a\bar{x}) = 0$

40. Obtain the sum of the deviations of the observations

3,4,6,8,14 from their mean.

41. The mean of 10 number is 25. if 5 is subtracted from each other find the new mean.

42. Find the mean of the following distributions

x	4	6	9	10	15
f	5	10	10	7	8

43. The mean of following data is 21.6. find the value of p

x_i	6	12	18	24	30	36
f_i	5	4	p	6	4	6

ilutionWe have the table.

44. The mean of the following frequency distributions is 1.46

No. of accidents (x)	0	1	2	3	4	5	Total
No. of drivers (f)	46	?	?	25	10	5	200

Find the missing frequencies.

Find the missing frequencies.

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45. The runs scored by 11 members of a cricket team are:

10,30,43,15,35,55,20,0,58,32. find the median score.

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46. Find the median of the following data

26,36,29,25,24,37,23,20,34

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47. The following observation are arranged in ascending order:

26,29,42,53,x,x+2,70,75,82,93

If the median is 65 find the value of x.

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48. find the median of the following data

18,26,59,48,31,30,32,52. if 26 is replaced by 62, what will be the new median.

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49. Find the median of the folloiwng frequency distributions

Variate	3	10	6	7	12	15
Frequency	3	2	4	13	8	10

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50. Find the mode of the following marks obtained by 20 students

3,5,6,9,3,2,8,8,6,4,5,10,3,5,7,9,9

51. For what value of x, the mode of the data is 12:

12,11,10,12,x,10,9,12,10,12

52. Find the mode of the following data:

25,23,25,28,23,16,23,16,22,17,25,23

53. Consider the marks out of 100, obtained by 51 students of a class in a test, given in table below:

Marks	Number of students
0–10	5
10–20	10
20–30	4
30–40	6
40–50	7
50–60	3
60–70	2
70–80	2
80–90	3
90–100	9
Total	51

Draw a historigram and frequency polygon for the above data.

54. A train travels between two stations ambala and Amritsar. While goind from Ambala to Amritsar, it takes 3 hours and its average speed is 100km/hr. when coming back from Amritsar of Ambala, it takes 2 hours and it average speed is 150 km/hr. obtain the average speed during the whole journey?

55. The mean of n observations $x_1, x_2, \ldots \ldots \ldots \ldots x_n$ is $\bar{x}$. If (p+q) is added to each observations then prove that the mean of the new set of observations is $\bar{x} + (p + q)$.

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56. If $x_1, x_2, \ldots \ldots \ldots \ldots x_p$ are p values of variabled x such that $\sum_{i=1}^{p} (x_i - 2) = 110$ and $\sum_{i=1}^{p} (x_i - 5) = 20$ find the value of p and the mean.

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57. 5 people of a locality were asked about the time they spent in a week in doing social work. They told the number of hous as: x,x+3,x+6,x+7,x+4. find the mean number of devoted by first three members. If mean number

of hours of 5 persons is 11 hours, what values do we draw from above data?

58. The percentage of salary donated by twelve difference households to an orphanage every month are: 3,4,3,4,6,4,3,4,1,2

find the mean, median and mode of the data. What qualities do the persons of these households possess?

59. Give three examples of data that you can collect from your School

60. find the mean of data

3,5,8,1,4,6

61. The blood groups of 30 students of Class VIII are recorded as follows:

A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O. Represent this data in the form of a frequency distribution table. Which is the most common, and which is the rarest, blood group among these students?

62. Distance of 40 engineers from their place of residence to their place of work were found as follows

5	3	10	20	25	11	13	7	12	31
19	10	12	17	18	11	32	17	16	2
7	9	7	8	3	5	12	15	18	3
12	14	2	9	6	15	15	7	6	12.

construct a grouped frequency distribution table with class size 5 for the data given above taking the first interval as 0-5. what main featues do you observe from his tabular representation.

63. The relative humidity (in %) of a certain city for a month of 30 days

was   as   follows   :

98.1	98.6	99.2	90.3	86.5
95.3	92.9	96.3	94.2	95.1
89.2	92.3	97.1	93.5	92.7
95.1	97.2	93.3	95.2	97.3
96.2	92.1	84.9	90.2	95.7
98.3	97.3	96.1	92.1	89

: Construct a

grouped frequency distribution table with classes 84 - 86, 86-88 etc.

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64. The relative humidity (in %) of a certain city for a month of 30 days

was as follows :

98.1	98.6	99.2	90.3	86.5
95.3	92.9	96.3	94.2	95.1
89.2	92.3	97.1	93.5	92.7
95.1	97.2	93.3	95.2	97.3
96.2	92.1	84.9	90.2	95.7
98.3	97.3	96.1	92.1	89

: Which month or season do you think this data is about ?

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65. The relative humidity (in %) of a certain city for a month of 30 days was as follows :

98.1	98.6	99.2	90.3	86.5
95.3	92.9	96.3	94.2	95.1
89.2	92.3	97.1	93.5	92.7
95.1	97.2	93.3	95.2	97.3
96.2	92.1	84.9	90.2	95.7
98.3	97.3	96.1	92.1	89

: What is the range of this data ?

66. The height of 50 students, measured to the nearest centimetres have been found to be as follows:

follows:

```
161 150 154 165 168 161 154 162 150 151
162 164 171 165 158 154 156 172 160 170
153 159 161 170 162 165 166 168 165 164
154 152 153 156 158 162 160 161 173 166
161 159 162 167 168 159 158 153 154 159.
(i) Represent the data
```

Represent the data given above by a grouped frequency distribution table, taking the class intervals as 160-165, 165-170 etc.

67. The heights of 50 students, measured to the nearest centimetres have been found to be as follows :

161	150	154	165	168	161	154
162	150	151	162	164	171	165
158	154	156	172	160	170	153
159	161	170	162	165	166	168
165	164	154	152	153	156	158
162	160	161	173	166	161	159
162	167	168	159	158	153	154
159						

: What can you conclude about their heights from the table ?

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68. A study was conducted to find out the concentration of sulphur dioxide in the air in parts per million (ppm) of a certain city. The data obtained for 30 days is as follows :

0.03	0.08	0.08	0.09	0.04	0.17
0.16	0.05	0.02	0.06	0.18	0.20
0.11	0.08	0.12	0.13	0.22	0.07
0.08	0.01	0.10	0.06	0.09	0.18
0.11	0.07	0.05	0.07	0.01	0.04

Make a

grouped frequency distribution table for this data with class intervals as 0.00 - 0.04, 0.04 -0.08 and so on.

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69. A study was conducted to find out the concentration of sulphur dioxide in the air in parts per million (ppm) of a certain city. The data obtained for 30 days is as follows :

0.03	0.08	0.08	0.09	0.04	0.17
0.16	0.05	0.02	0.06	0.18	0.20
0.11	0.08	0.12	0.13	0.22	0.07
0.08	0.01	0.10	0.06	0.09	0.18
0.11	0.07	0.05	0.07	0.01	0.04

For how many days, was the concentra-tion ofsulphur dioxide more than 0.11 parts per million.

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70. Three coins were tossed 30 times simultaneously.Each time thenumber of heads occurring was noted down asfollows :

```
012212  3  130
131122  0  121
300112  3  220
```
Prepare a frequency distribution for the data given above

71. The value of π upto 50 decimal places is given below:

3.14159265358979323846264338327950288419716939937510 (i) Make a frequency distribution of the digits from 0 to 9 after the decimal point. (ii) What are the most and the least frequently occurring digits?

72. The value of π upto 50 decimal places is given below:

3.14159265358979323846264338327950288419716939937510 (i) Make a

frequency distribution of the digits from 0 to 9 after the decimal point.

(ii) What are the most and the least frequently occurring digits?

73. Thirty children were asked about the number of hours they watched

TV programmes in the previous week. The results were found as follows :

1 6 2 3 5   12   5   8 4 8
10 3   4   12   2   8   15   1   17   6
3 2 8 5 9 6   8   7   14   12

: How many

children watched television for 15 or more hours a week ?

74. The following number of goals were scored by a team in a series of 10

matches : 2, 3, 4, 5, 0, 1, 3, 3, 4, 3 Find mean, median and mode of these

scores :

75. In a mathematics test given to 15 students, the following marks (out of 100) are recorded: 41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60 Find the mean, median and mode of this data.

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76. The following observations have been arranged in theascending order.If themedian of the data is 63, find the value of x : 29, 32, 48, 50, x,x + 2, 72, 78, 84, 95

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77. Find the mode of 14, 25, 14, 28, 18, 17, 18, 14, 23, 22, 14, 18.

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78. Give an example of a situation in which : the mean is an appropriate measure of central tendency.

79. Give one example of a situations in which:

The mean is not an appropriate measure of central tendency but the median is an appropriate measure of central tendency?
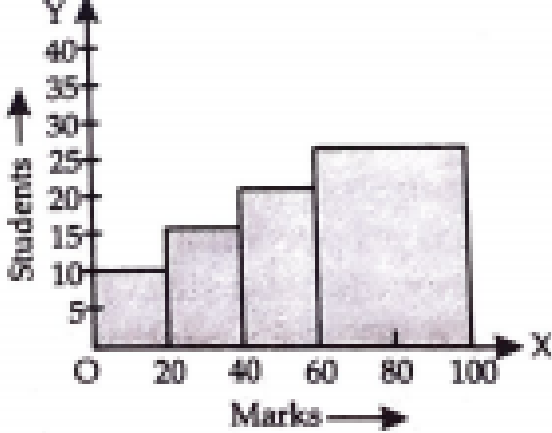
80. The frequency distribution

Marks	0–20	20–40	40–60	60–100
Number of students	10	15	20	25

has been repesented graphically as follows

Do you think this representation is correct? Why?

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81. In a diagonstic test in Mathematics given to students, the following marks are recorded: 46,52,48,11,41,62,54,53,96,40,98,44 which average will be a good representative of the above data and why?

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82. A child says that the median of 3,14,18,20,5 is 18. what does not the child understand about finding the median?

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83. A football player scored the following number of goals in the 10 matches:

1,2,5,8,1,4,7,9

since the number of matches is 10 therefore, the median=
$\dfrac{5thobservation + 6thobservation}{2} = \dfrac{8 + 6}{2} = 7$ is it's the correct answer and why?

84. Is its correct to say that in a histogram, the area of each rectangle is proportional to the class size of the corresponding class interval? If not, correct the statement

85. The class marks of a continuous distribution are 1.04, 1.14, 1.24, 1.34, 1.44, 1.54, 1.64 Is it correct to sya that he last interval will be 1.55-1.73? Justify your answer.

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86. The blood groups of 30 students of Class VIII are recorded as follows: A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O. Represent this data in the form of a frequency distribution table. Which is the most common, and which is the rarest, blood group among these students?

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87. The value of π upto 50 decimal places is given below: 3.14159265358979323846264338327950288419716939937510 (i) Make a frequency distribution of the digits from 0 to 9 after the decimal point. (ii) What are the most and the least frequently occurring digits?

88. The scores (out of 100) obtained by 33 students in a Mathematics test are :

69,48,84,58,84,48,73,83,48,66,58,66,64,71,64,66,69,

66,83,66,69,71,81,71,73,69,66,66,64,58,64,69and 69.

Prepare a frequency table for the above scores.

89. A class consists of 50 students out of which 30 are girls, the mean of mark scored by girls in a test is 45 and that of boys is 30. determine the mean score of the whole class.

90. Mean of 50 observations was found to be 80.4. but later on, it was discovered that 96 was misread as 69 at one place. Find the corect mean.

91. Ten observations 6,14,15,17,x+1,2x-13,30,32,34,46 are written is an ascending order. The median of the data is 24. find the value of x.

92. The points scored by a basket ball team in a seris of matches are as follows:
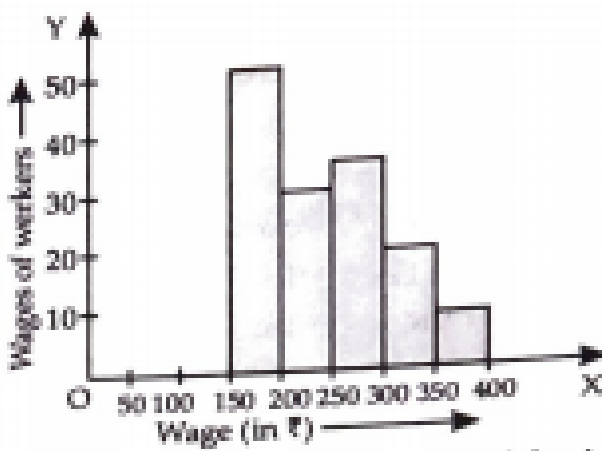
17,2,7,27,25,5,14,18,24,48,10,8,7,10,28

Find the median and mode for the data.

93. In the fig. there is a histogram depicting daily wages of workers in a factory. Construct the frequency distribution table

94. The following are the marks of 60 students in Mathematics

16,13,5,80,86,7,51,24,56,70,19,16,36,34,42,34,35,73,55,75,52,72,97,74,45,62,

68,86,35,81,75,55,26,95,31,7,78, 92,62,52,56,15,63,25,54,44,47,27,17,4,30

Construct a grouped distribution table with width 10 each of the class

starting from 0-9.

95. Find the mean of the given data

10,4,5,2,8,4

96. Draw a histogram of the following distribution

Heights (in cm)	No. of students
150 – 153	7
153 – 156	8
156 – 159	14
159 – 162	10
162 – 165	6
165 – 168	5

97. Draw a histogram to represent the following grouped frequency distribution:

grouped frequency

Ages (in years)	Number of teachers
20 – 24	10
25 – 29	28
30 – 34	32
35 – 39	48
40 – 44	50
45 – 49	35
50 – 54	12

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98. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table.

Length in mm	Number of leaves
118-126	3
127-135	5
136-144	9
145-153	12
154-162	5
163-171	4
172-180	2

: Draw a histogram to represent the given data.

▶ Watch Video Solution

99. The marks obtained of a class of 80 students are given below

Marks	Number of students
10 – 20	6
20 – 30	17
30 – 50	15
50 – 70	16
70 – 100	26

Construct a histogram to represent the data above.

▶ Watch Video Solution

100. Following table shows a frequeny ditribution for the speed of cars pasing through a particular spot on a high way, draw the histogram and frequency polygon representing the data above.

Class interval (km/h)	Frequency
30 – 40	3
40 – 50	6
50 – 60	25
60 – 70	65
70 – 80	50
80 – 90	28
90 – 100	14

▶ Watch Video Solution

101. The following table gives the distribution of students of two sections according to the marks obtained by them :

Section A		Section B	
Marks	Frequency	Marks	Frequency
(1–10	3	0–10	· 5
10–20	9	10–20	19
20–30	17	20–30	15
30–40	12	30–40	10
40–50	9	40–50	1

: Represent the marks of the students of both the sections on the same graph by two frequency polygons. From the two polygons compare the performance of the twosections.

 Watch Video Solution

102. The mean of the following distribution is 50

x	f
10	17
30	$5a + 3$
50	32
70	$7a - 11$
90	19

Find the value of a and hence the frequencies of 30 and 70.

▶ Watch Video Solution

103. The mean marks of boys and girls in an examination are 70 and 73, respectively. If the mean marks of all the studetns in that examinatin is 71, find the ratio of the number of boys to the number of girls.

▶ Watch Video Solution

104. A total of 25 patients admitted to a hospital are tested for levels of

blood sugar and the results obtained were as follows

87	71	83	67	85
77	69	76	65	85
85	54	70	68	80
73	78	68	85	73
81	78	81	77	75.

find the mode of the above data.

▶ **Watch Video Solution**

Exercise

1. Define

Statistics as a subject.

▶ **Watch Video Solution**

2. Define

Few fundamental characterstics of Statistics.

▶ **Watch Video Solution**

3. Define primary and secondary data. Which of them is more reliable and

why?

▶ **Watch Video Solution**

4. Explain the meaning of the following terms:

variate.

▶ **Watch Video Solution**

5. Explain the meaning of the following terms:

class interval.

6. Explain the meaning of the following terms:

class size.

7. Explain the meaning of the following terms:

class mark.

8. Explain the meaning of the following terms:

frequency of a class

9. Explain the meaning of the following terms:

cumulative frequency of a class.

10. Explain the meaning of the following terms:

true class limits

11. Write the class size in each of the folowing

0-4,5-9,10-14

12. Write the class size in each of the folowing

10-19,20-29,30-39

13. Write the class size in each of the folowing

100-120,120-140,140-160

14. Write the class size in each of the folowing

0-0.25,0.25-0.50,0.50-0.75

15. Write the class size in each of the folowing

5-5.01, 5.01-5.02, 5.02-5.03.

16. The final makrs in Mathematics of 30 students are as follows

$(53, 61, 48, 60, 78, 68, 55, 100, 67, 90), (75, 88, 77, 37, 84, 58, 60, 48, 62, 56),$

Arrange these marks in the ascending order, 30 to 39 one group, 40 to 49

second group etc.

▶ **Watch Video Solution**

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17. The final makrs in Mathematics of 30 students are as follows

$53, 61, 48, 60, 78, 68, 55, 100, 67, 90, 75, 88, 77, 37, 84, 58, 60, 48, 62, 56, 44, 5$

What is the highest score?

▶ **Watch Video Solution**

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18. The final makrs in Mathematics of 30 students are as follows

$(53, 61, 48, 60, 78, 68, 55, 100, 67, 90), (75, 88, 77, 37, 84, 58, 60, 48, 62, 56),$

What is the lowest score?

▶ **Watch Video Solution**

19. The final makrs in Mathematics of 30 students are as follows

53 61 48 60 78 68 55 100 67 90
75 88 77 37 84 58 60 48   62 56
44 58 52 64 98 59 70 38   50 60

What is the range?

▶ Watch Video Solution

20. The final makrs in Mathematics of 30 students are as follows

53, 61, 48, 60, 78, 68, 55, 100, 67, 90, 75, 88, 77, 37, 84, 58, 60, 48, 62, 56, 44, 5

What is the highest score?

▶ Watch Video Solution

21. The final makrs in Mathematics of 30 students are as follows

(53, 61, 48, 60, 78, 68, 55, 100, 67, 90)

(75, 88, 77, 37, 84, 58, 60, 48, 62, 56)

(44, 58, 52, 64, 98, 59, 70, 38, 50, 60)

How much have scored 75 or more?

22. The final makrs in Mathematics of 30 students are as follows

(53, 61, 48, 60, 78, 68, 55, 100, 67, 90)

(75, 88, 77, 37, 84, 58, 60, 48, 62, 56)

(44, 58, 52, 98, 59, 70, 38, 50, 60)

Which observations between 50 and 60 have not actually appeared?

23. The final marks in Mathematics of 30 students are as follows

(53, 61, 48, 60, 78, 68, 55, 100, 67, 90)

(75, 88, 77, 37, 84, 58, 60, 48, 62, 56)

(44, 58, 52, 98, 59, 70, 38, 50, 60)

How many have scored less than 50?

24. The number of runs scored by a cricket player in 25 innings are as follows:

26,35,94,48,82,105,53,0,39,42,71,0,64,15,34,67,0,42,124,84,48,139,64,47

Rearange these runs in ascending order.

> ▶ **Watch Video Solution**

25. The number of runs scored by a cricket player in 25 innings are as follows:

26,35,94,48,82,105,53,0,39,42,71,0,64,15,34,67,0,42,124,84,48,139,64,47

Determine the player's highest score.

> ▶ **Watch Video Solution**

26. The number of runs scored by a cricket player in 25 innings are as follows:

26,35,94,48,82,105,53,0,39,42,71,0,64,15,34,67,0,42,124,84,48,139,64,47

How many centuries did he score?

27. The number of runs scored by a cricket player in 25 innings are as follows:

26,35,94,48,82,105,53,0,39,42,71,0,64,15,34,67,0,42,124,84,48,139,64,47

How many times did he score more than 50 runs?

28. The number of runs scored by a cricket player in 25 innings are as follows:

26,35,94,48,82,105,53,0,39,42,71,0,64,15,34,67,0,42,124,84,48,139,64,47

How many times did the player not score a run?

29. Following data gives the number of children in 40 families:2,1,5,6,1,5,1,3,2,6,4,2,0,4,4,3,2,2,0,0,1,2,2,4,3,2,0,5,1,2,4,3,4,1,2,2,6

Represent it in the form of frequency distribution, taking classes 0-2,2-4 etc.

30. The marks scored by 40 students of class IX in mathematics are given below:

81, 56, 68, 79, 85, 13, 29, 68, 54, 73, 47, 35, 72, 64, 95, 44, 50, 77, 64, 35, 79, 52, 45, 54, 70, 83, 62, 64, 72, 92, 84, 76, 63, 43, 54, 38, 73, 68, 52, 54.

Prepare a frequency distribution with class size of 10 marks.

31. The heights of 30 students of class IX are given below:

158,155,154,158,160,148,150,153,159,161,148,157,162,159,151,154,156,152,156

,160,152,147,155,163,155,153,157. prepare a frequency distributions table with 150-154 as one of the class intervals.

32. The daily maximum temperature recorded in a certain city during the month of November are as follows:

24.5, 25.8, 25.6, 20.7,

21.8,20.5,20.6,20.9,23.1,22.4,21.5,22.7,22.8,22.0,23.9,22.8,23.8,24.6,21.1,23.9

Represent them as a frequency distribution table with class size $1°C$.

▶ Watch Video Solution

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33. The yearly savings (in rupees) of 30 students of X are as follow:

50,60,53,70,70,80,60,53,75,47,47,47,75,53,60,70,70,80,53,50,53,70,75,75,60,80,47,5

a frequency table using tally marks.

How much saving is minimum?

▶ Watch Video Solution

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34. Following are the ages of 360 patients getting medical treatment in a hospital

Age (in years)	10-20	20-30	30-40	40-50	50-60	60-70
Number of Patients	90	60	50	80	50	30

Construct a commulative frequency table for the above data.

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35. Given below is a cummulative frequency table

Marks	Number of Students
Below 10	16
Below 20	23
Below 30	29
Below 40	37
Below 50	50
Below 60	60

Extract a frequency table from the above.

> ▶ **Watch Video Solution**

36. Make a frequency table from the following

Marks Obtained	Number of Students
More than 60	0
More than 50	16
More than 40	40
More than 30	75
More than 20	85
More than 10	90
More than 0	100

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37. One a certain day the temperatuer in a city was recorded as under:

Time	5 a.m.	8 a.m	11 a.m.	3 p.m.	6 p.m.
Temperature (in °C)	18	22	24	20	18

Illustrate the data by a bar graph.

▶ Watch Video Solution

38. The following table shows the favourite sports of 250 students of a school. Represent the data by a bar graph

Sports	No. of Students
Cricket	72
Football	40
Tennis	50
Badminton	20
Swimming	60

▶ Watch Video Solution

39. Given below is a table which shows the year wise strenght of a school. Represent this data by a bar graph

Year	No. of students
2012-13	700
2013-14	875
2014-15	1200
2015-16	1300
2016-17	1525

▶ Watch Video Solution

40. The birth rate per thousand in five countries over a priod of time is shown below

Country	Birth rate per thousand
China	40
India	38
Turkey	16
UK	26
Japan	26

Represent the above data by a bar graph.

▶ Watch Video Solution

41. The air distance of four cities form Delhi are given below

City	Distance from Delhi (in Km)
Kolkata	1340
Mumbai	1100
Chennai	1700
Hyderabad	1220

Draw a graph to represent the data.

▶ Watch Video Solution

42. Gold prices on 4 consecutive wednesdays were as under:

Week	Rate per 10 g (in ₹)
First	30,000
Second	29,500
Third	30,500
Fourth	29,700

Draw a bar graph to represent the data.

▶ Watch Video Solution

43. Various modes of transport used by 1950 students of a school are given below

School Bus	640
Private bus	360
Bicycle	590
Rickshaw	310
By foot	150

Draw a graph to represent the above data.

▶ Watch Video Solution

44. The following table shows the daily production of T.V sets in a

industry for 7 days of a week

Days	Number of T.V. Sets
Mon	200
Tue	300
Wed	150
Thurs	350
Fri	200
Sat	350
Sun	100

information by bar graph.

Represent the above information by bar graph.

▶ Watch Video Solution

45. Read the bar graph shown in fig. and answer the following questions
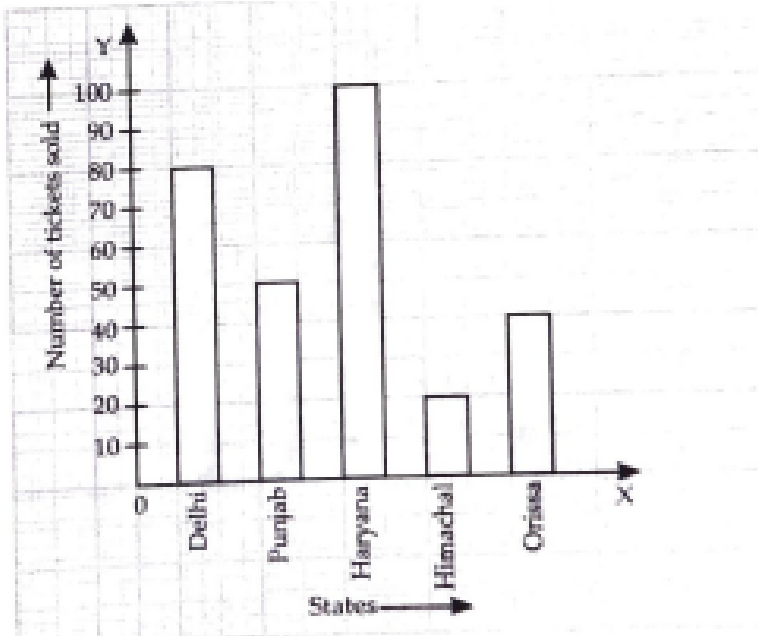
What is the information given by the bar graph.

46. Read the bar graph shown in fig. and answer the following questions
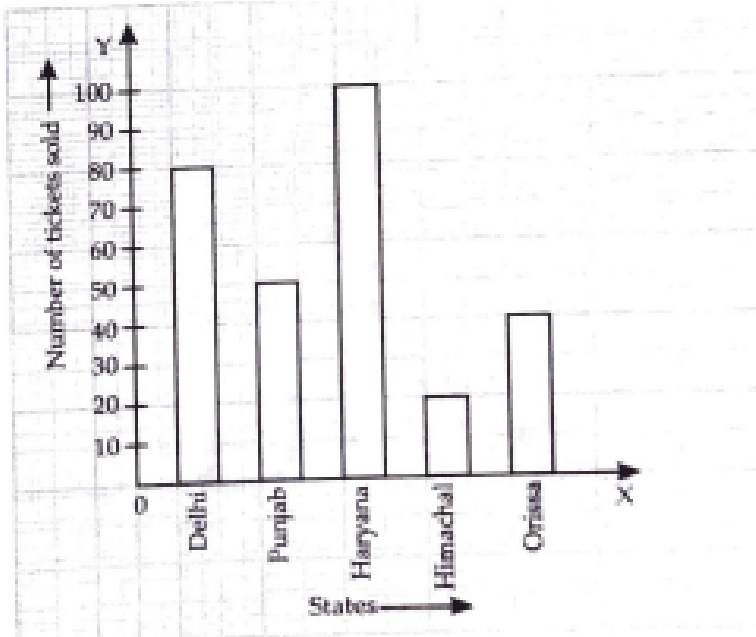
How many tickets of Orissa State Lottery were sold by the agent?

▶ Watch Video Solution

47. Read the bar graph shown in fig. and answer the following questions
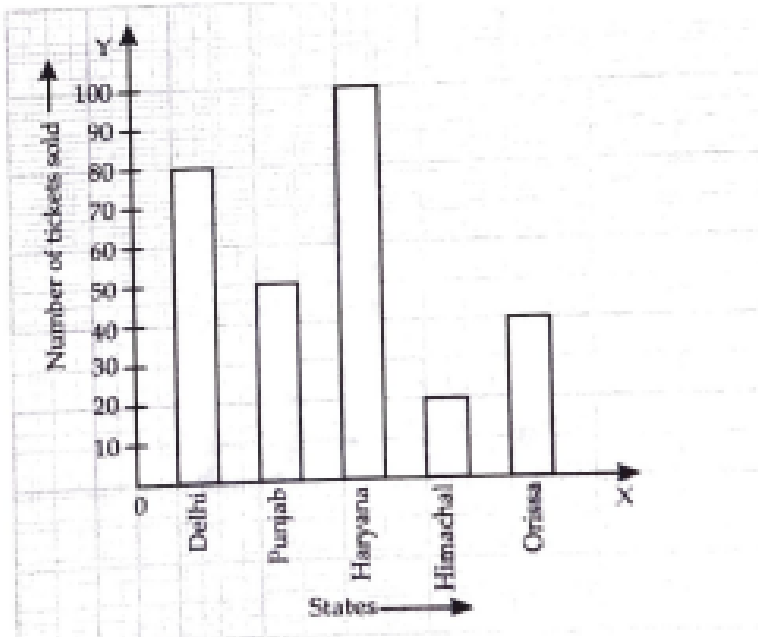
Of which state were the maximum number of tickets sold?

▶ Watch Video Solution

48. Read the bar graph shown in fig. and answer the following questions
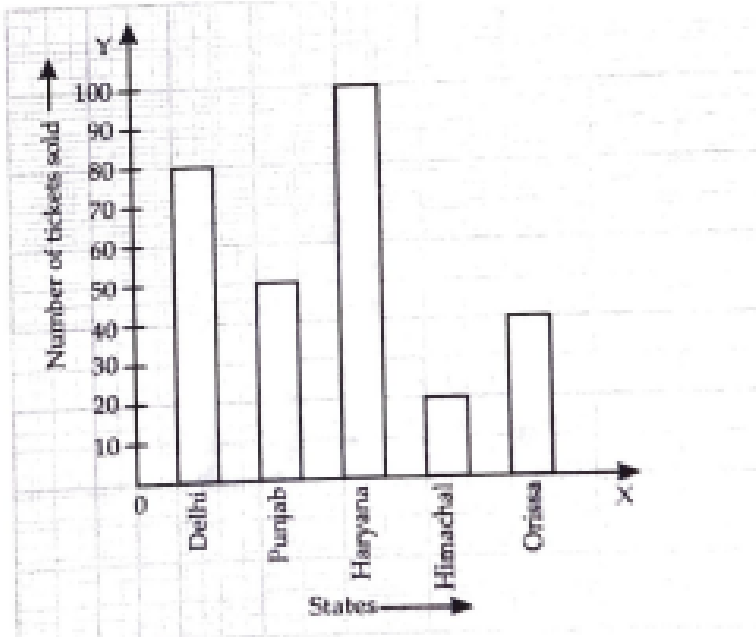

The maximum number of tickets sold is three times the minimum number

of tickets sold.

▶ Watch Video Solution

49. Read the bar graph shown in fig. and answer the following questions
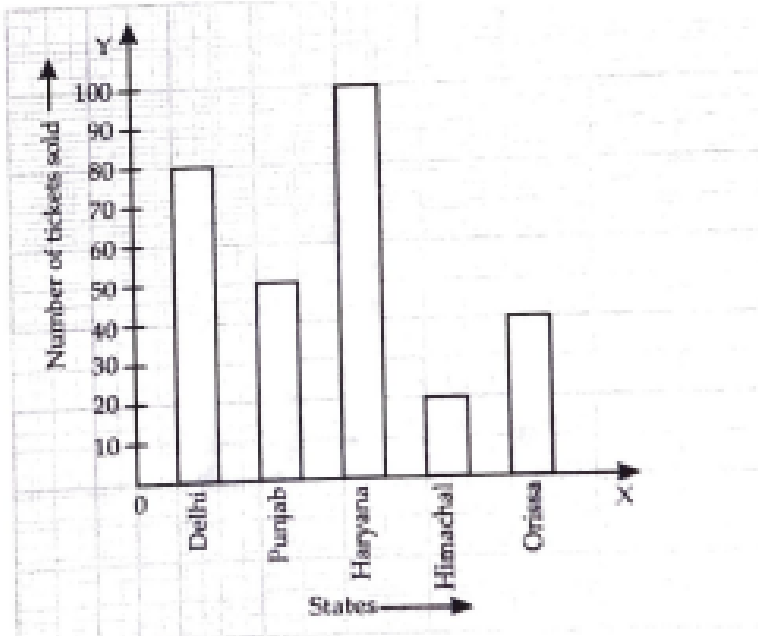
Of which state were the minimum number of tickets sold?

▶ Watch Video Solution

50. Read the bar graph shown in fig. and answer the following questions
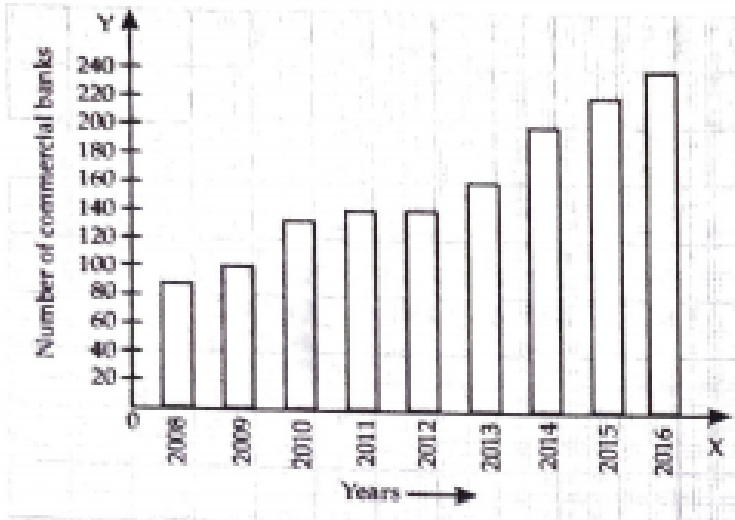
What is the information given by the bar graph?

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51. Read the bar graph shown in fig. and answer the following questions
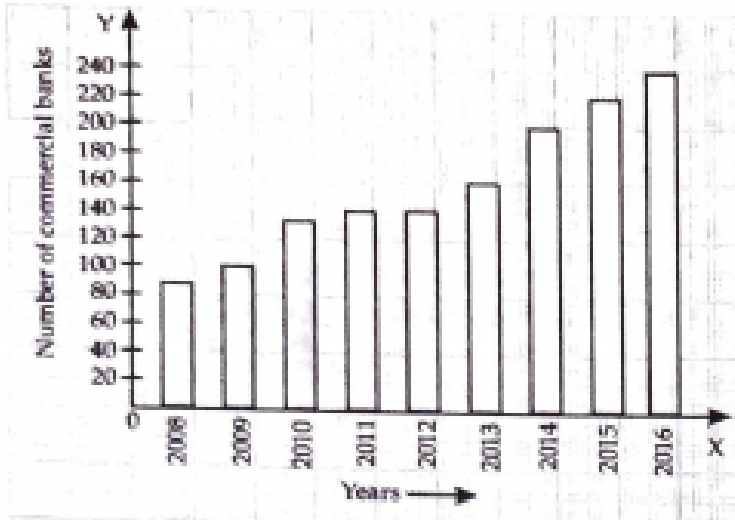
What was the number of commercial banks in 2010?

Watch Video Solution

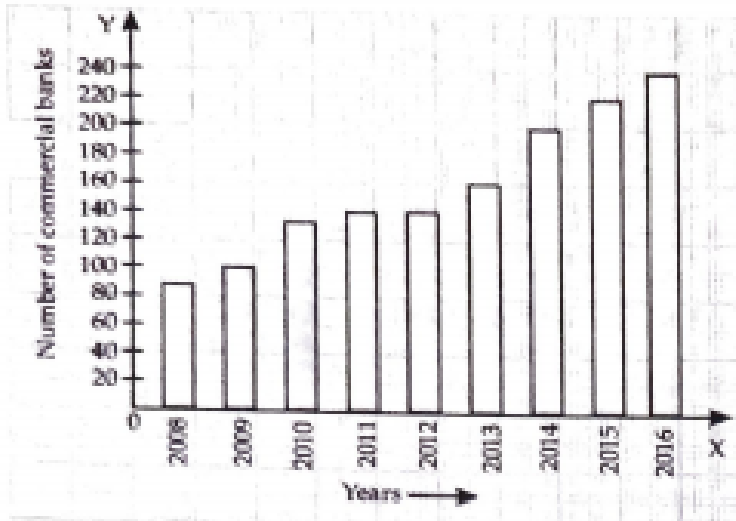**52.** Read the bar graph shown in fig. and answer the following questions
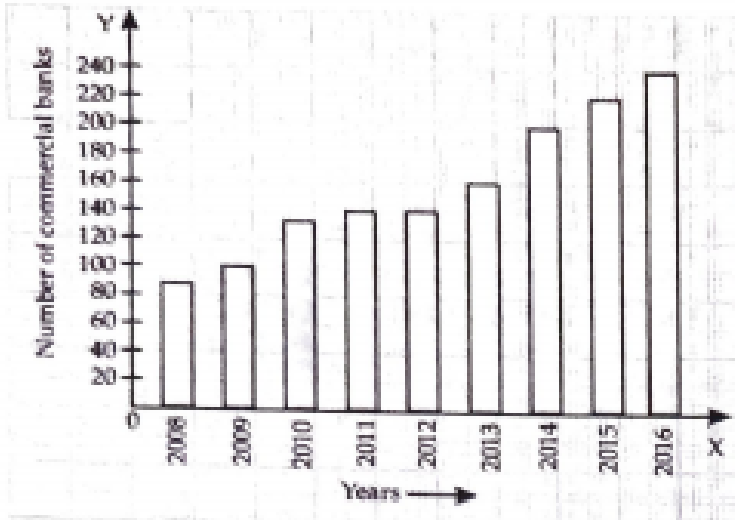
What is the ratio of the number of commercial banks in 2008 to that in 2014?

▶ Watch Video Solution

53. Read the bar graph shown in fig. and answer the following questions
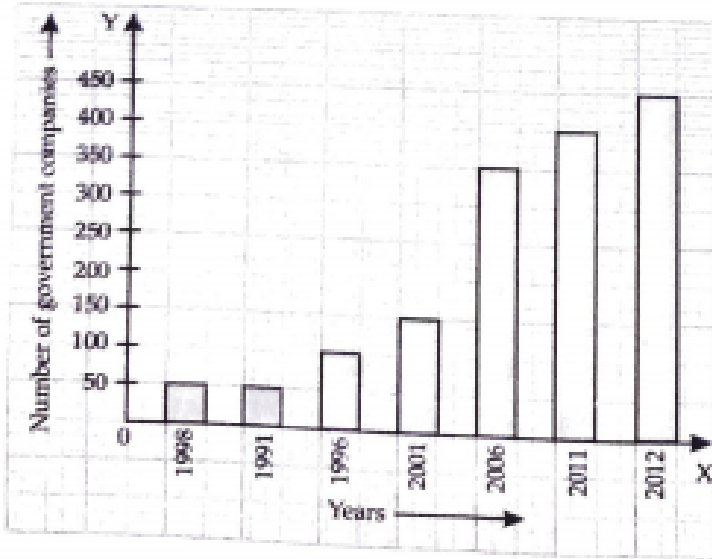

The number of commercial banks in 2016 is less than double the number
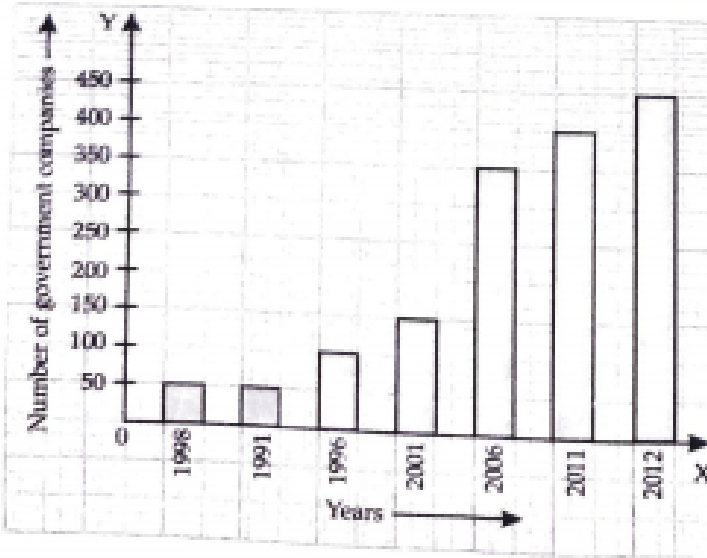
of commercial banks in 2008.

▶ Watch Video Solution

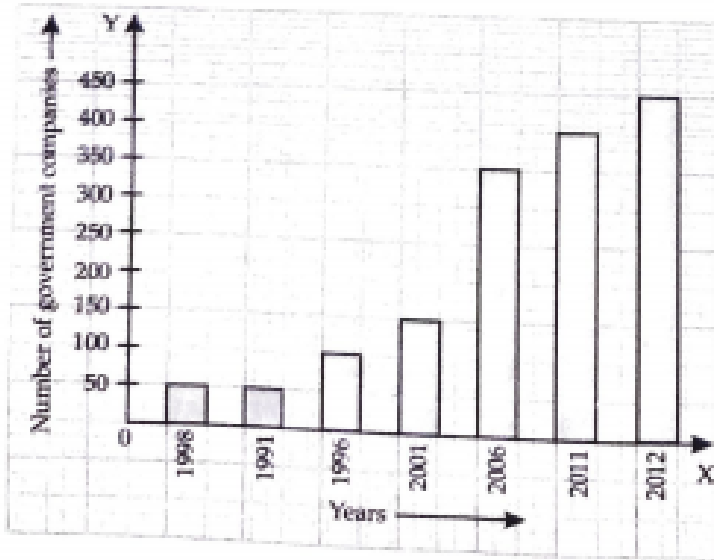**54.** What is the information given y the bar graph

55. The number of governement companies in 1996 is that of 2011 of 1:9

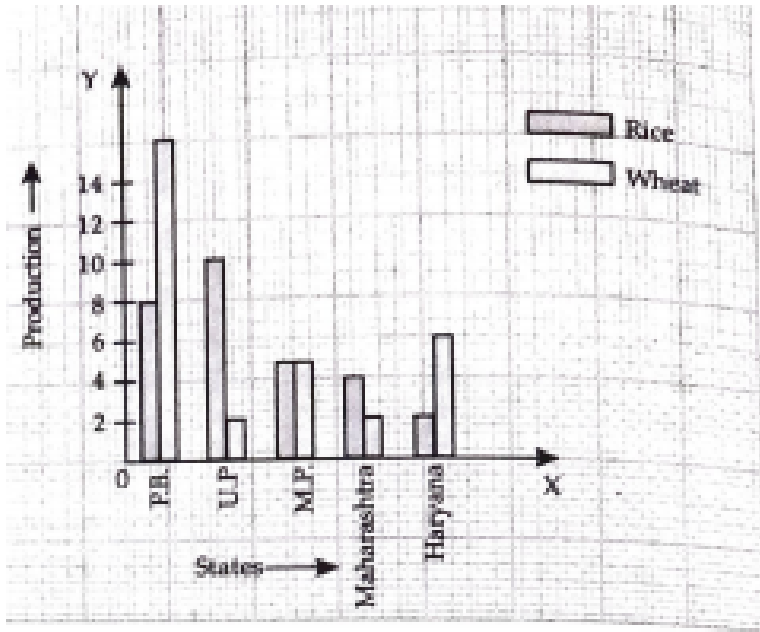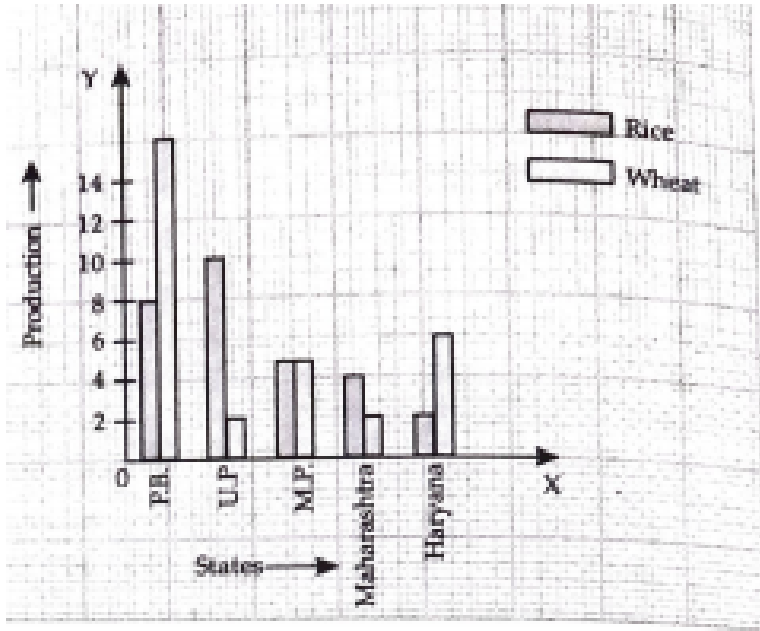**56.** The number of government companies have decreased over the year 1998 to 2012.

57. Read the following bar graph and answer the following questions

What information is given by the bar graph?

▶ Watch Video Solution

58. Read the following bar graph and answer the following questions

Which state is the largest producer of rice?

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59. Read the following bar graph and answer the following questions
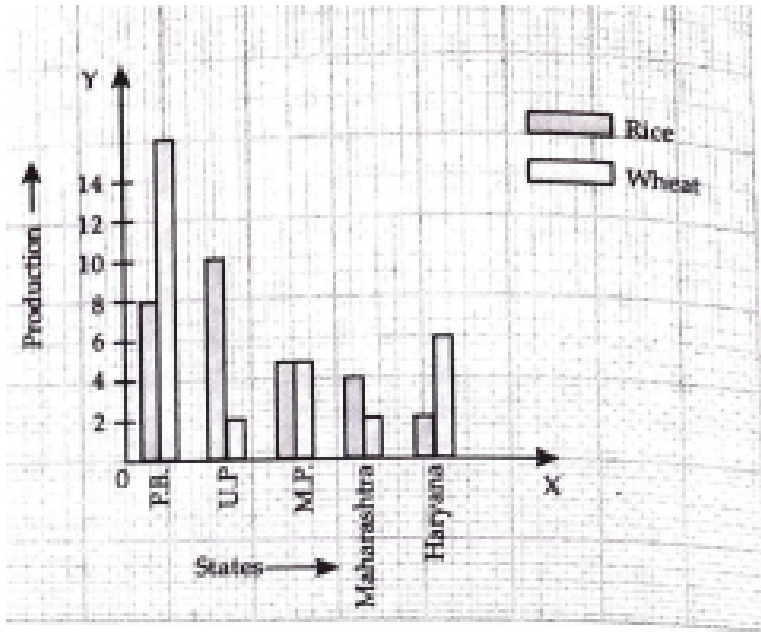
Which state is the largest producer of wheat?

60. Read the following bar graph and answer the following questions
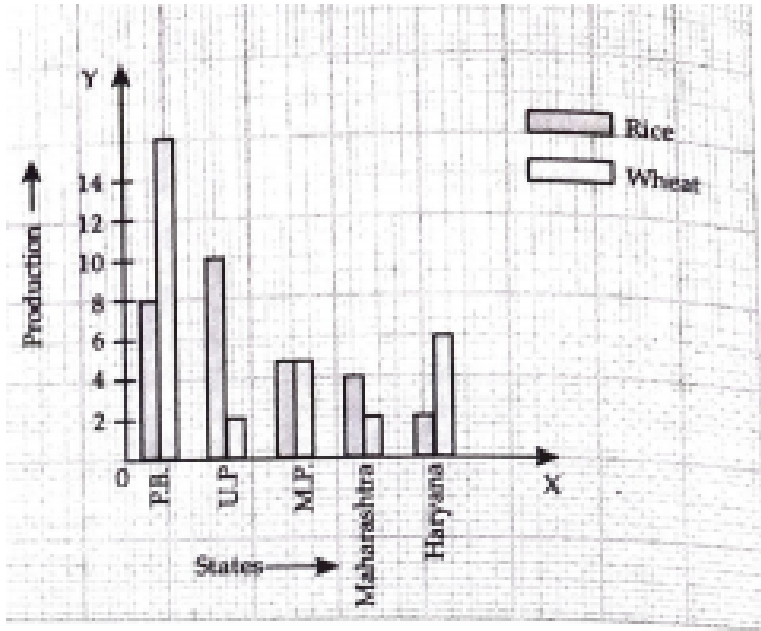
Which state has the total production of wheat and rice as its maximum?

▶ Watch Video Solution

61. Read the following bar graph and answer the following questions
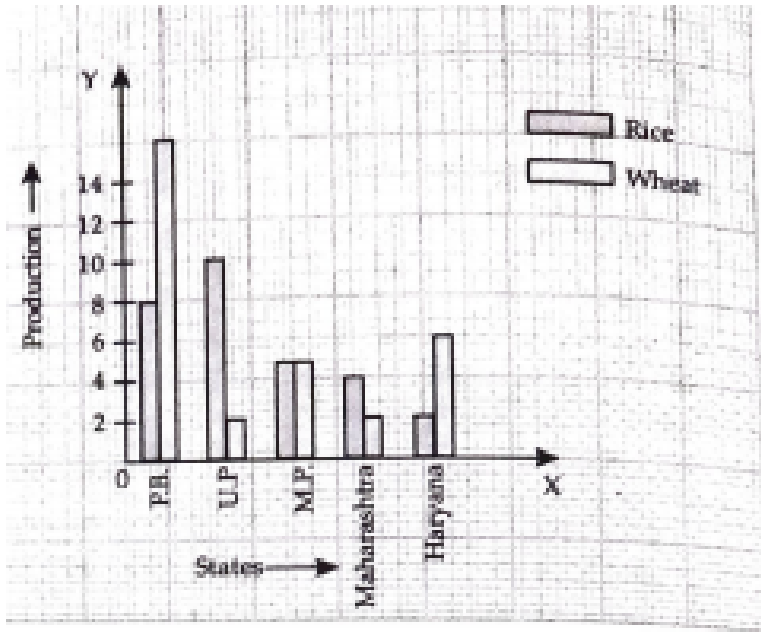
Which state has the total production of wheat and rice minimum?

▶ **Watch Video Solution**

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62. Read the following the bar graph in fig. and answer the following
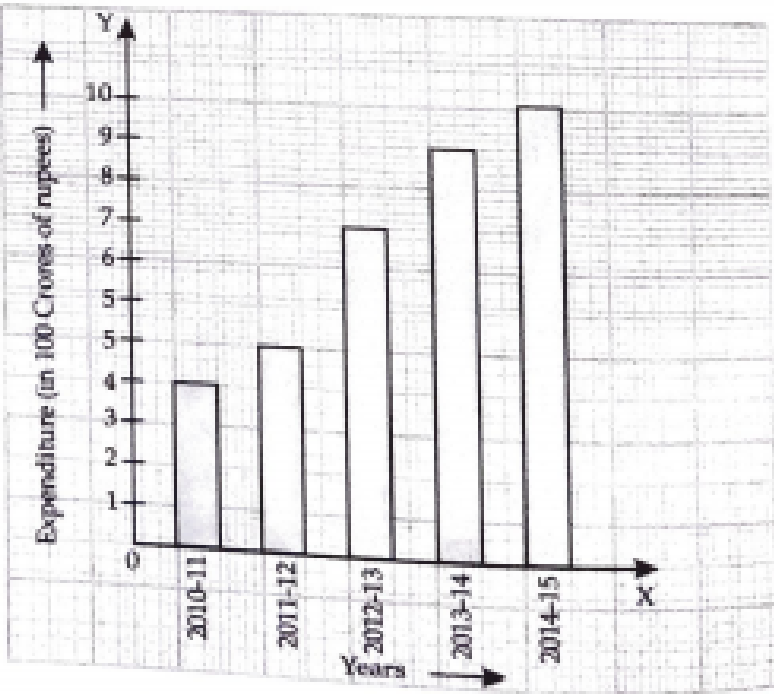
questions

What was the expenditure on health and family planning in the year 2012-13?

63. Read the following the bar graph in fig. and answer the following questions
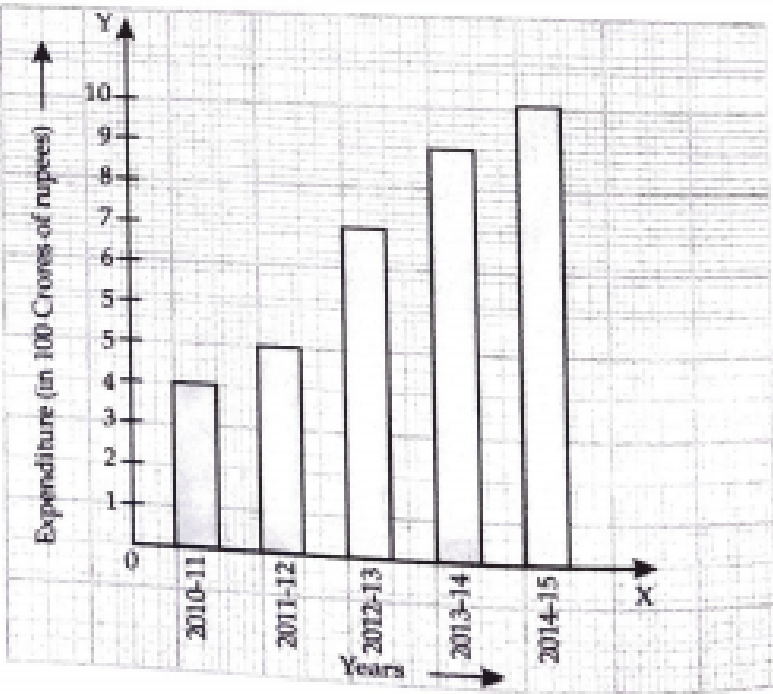
In which year is increased in expenditure maximum over the expenditure.

▶ **Watch Video Solution**

64. Read the following the bar graph in fig. and answer the following questions

Y-axis: Expenditure (in 100 Crores of rupees)

X-axis: Years (2010-11, 2011-12, 2012-13, 2013-14, 2014-15)
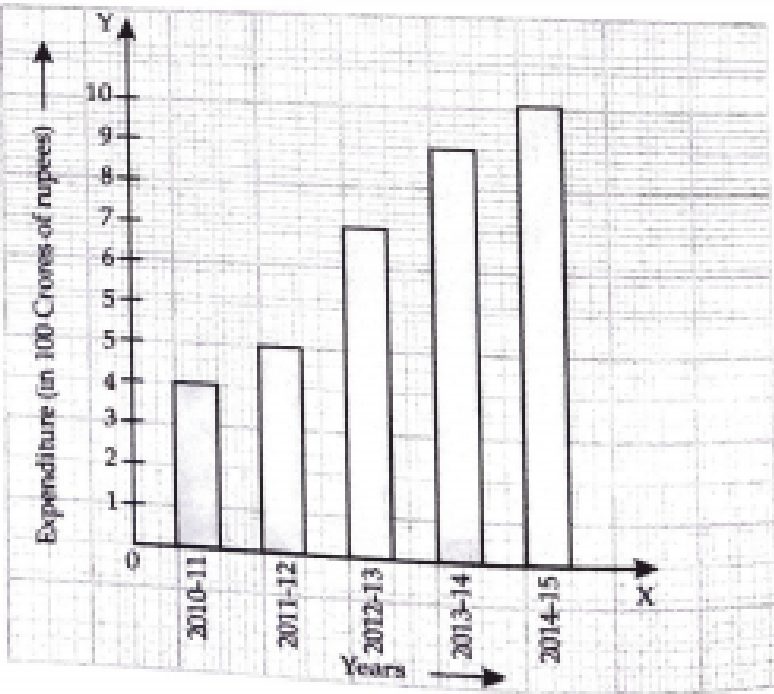
What information is given by the bar graph?

▶ Watch Video Solution

65. What information does it gave?
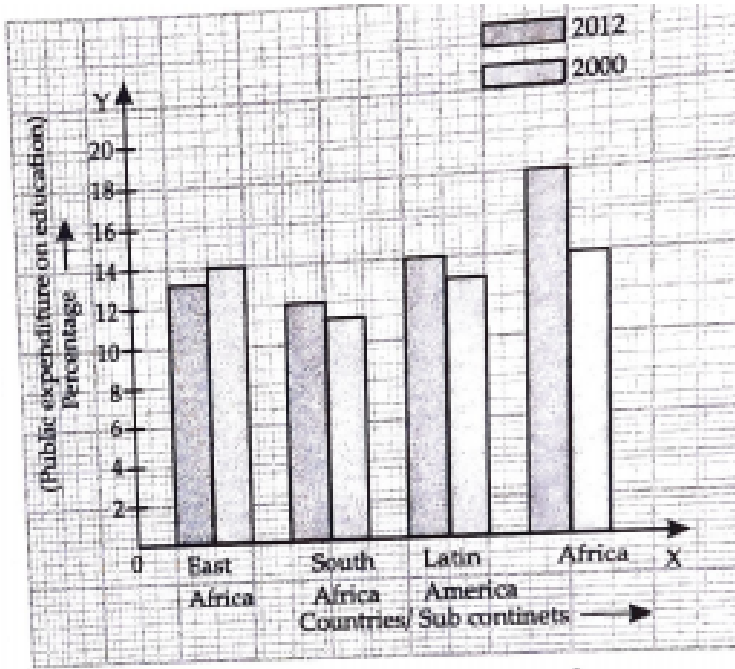
66. In which part the expenditure on education is maximum in 2000?
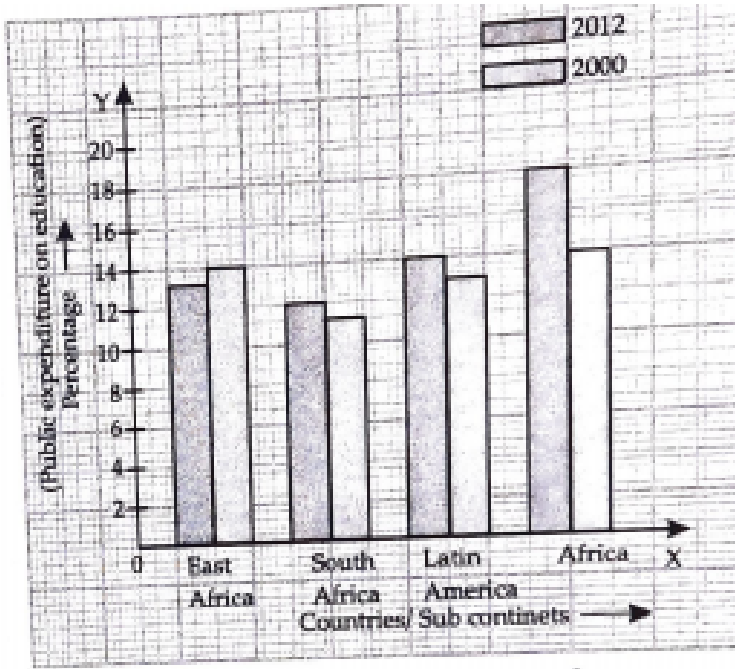
67. In which part the expenditure has gone up from 2000 to 2012?
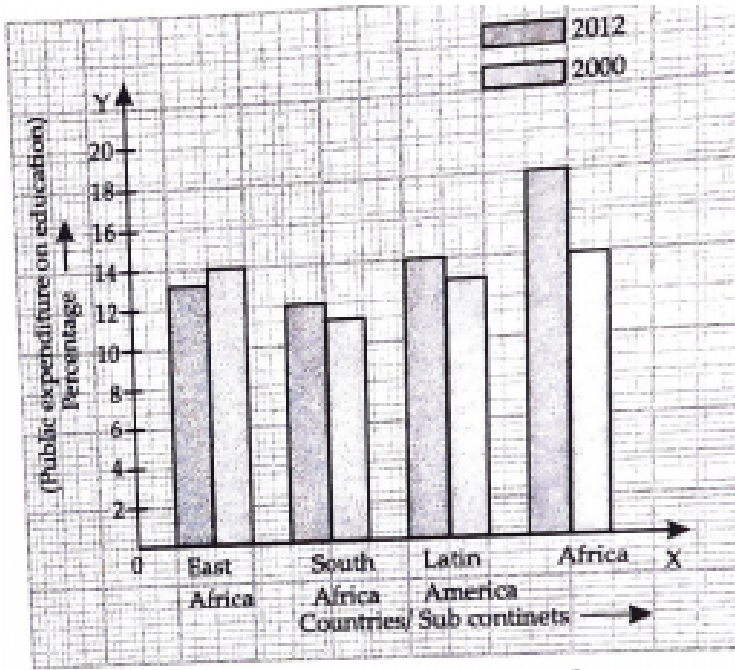
Watch Video Solution

68. In which part the gap between 2000 to 2012 is maximum?
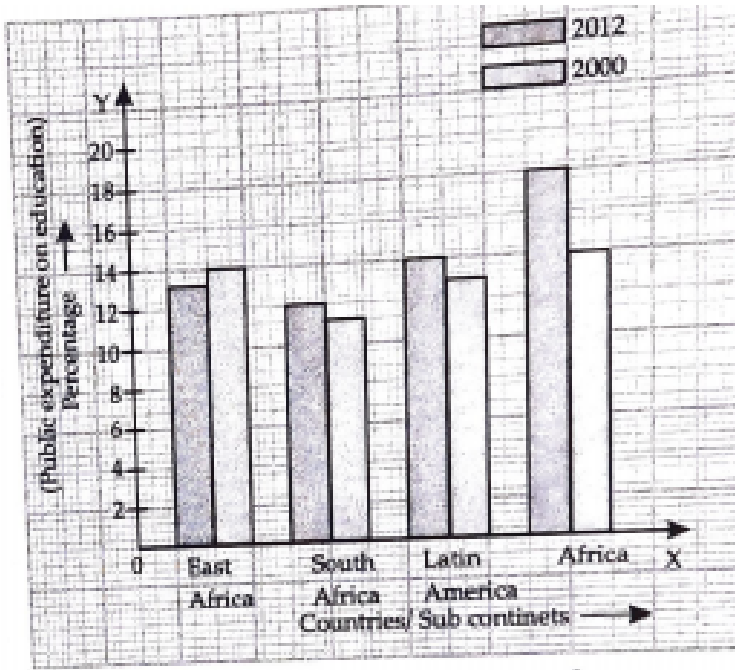
▶ Watch Video Solution

69. The daily wages of 50 workers in a factory are given below:

given below:

Daily wages (in ₹)	Number of Workers
140-180	15
180-220	9
220-260	14
260-300	3
300-340	7
340-380	2

Construct a histogram to represent the above frequency distribution.

▶ **Watch Video Solution**

70. Draw a histogram for the frequency distributions of the following data

Class Interval	Frequency
8-13	340
13-18	760
18-23	140
23-28	560
28-33	250
33-38	100
38-43	70

71. The following table shows the number of illiterate persons in the age group in a town

Age group (in years)	Number of Illiterate Persons
10-16	180
17-23	320
24-30	90
31-37	160
38-44	240
45-51	425
52-58	525

Draw a histogram to represent the above data.

▶ Watch Video Solution

72. Construct a histogram for the following data:

Monthly School fee (in ₹)	No. of Schools
30-60	4
60-90	10
90-120	16
120-150	20
150-180	10
180-210	8
210-240	4

Draw a histo...

▶ Watch Video Solution

73. Draw a histogram for the daily earnings of 30 drug stores in the following table

Daily earnings (in ₹)	No. of Stores
450-500	15
500-550	10
550-600	8
600-650	4
650-700	2

▶ Watch Video Solution

74. The ages of 360 patients treated in a hospital on a particular day are given below

Age (in years)	Number of Patients
10-20	80
20-30	40
30-40	50
40-50	30
50-60	120
60-70	40

Draw a histogram and the frequ...

Draw a histogram and the frequency polygon on the same grap to represent the above data.

▶ **Watch Video Solution**

75. Draw a frequency polygon for the following frequency distribution

Class interval	Frequency
1-10	7
11-20	2
21-30	8
31-40	10
41-50	3
51-60	7

76. Draw a histogram for the following data:

Class interval	Frequency
600-640	20
640-680	45
680-720	155
720-760	286
760-780	173
800-840	65

77. The following is the distribution of total household expenditure of manual worker in a city The total numbers of workers whose earning is

between 100-250 is

Daily earnings (in ₹):	No. of Stores
100-150	35
150-200	50
200-250	25
250-300	30
300-350	40
350-400	21
400-450	15
450-500	10

▶ Watch Video Solution

78. The montly profits of 100 shops are distributed as follows

Draw a histogram for the data and show the frequency polygon for it.

Profit per shop	No. of shops
0-50	10
50-100	20
100-150	27
150-200	15
200-250	22
250-300	6

79. Find the mean of first five natural numbers.

80. Find the mean of all factors of 10.

81. Find the arithmetic mean of first ten even natural numbers.

82. The number of children in 10 families of a locality are: 2,4,3,4,2,0,3,5,1,6 .Find the mean number of children per family.

83. Find the mean of first five multiples of 3.

84. The number of children in 10 families of a locality are: 2,4,3,4,2,0,3,5,1,6 .Find the mean number of children per family.

85. The following are the number of books issued in a school library during a week:

105, 216, 322,167,273,405 and 346. find the average number of books issued per day.

86. If the arithmetic mean of 7,9,1,13,x,21 is 13, find the value of x.

87. The mean of 20 numbers is 43, if 6 is subtracted from each of the numbers, what will be the new mean?

88. The mean of 12 numbers is 40. if each numbers if divided by 8, what will be the mean of the new numbers?

89. The mean of 20 numbers is 18, if 3 is added to each of the first ten numbers, find the mean of the new set of 20 numbers.

90. The mean of 100 items was found to be 64. later on, it was discovered that two itens were misread as 26 and 9 instead of 36 and 90 respectively. Find the correct mean.

▶ **Watch Video Solution**

91. The mean of 200 items was 50. later on, it was discovered that the two items were misread as 92 nd 8 instead of 192 and 88, find the correct mean.

▶ **Watch Video Solution**

92. The mean of six numbers is 23. if one of the number is excluded, the mean of the remaining numbers is 20. find the excluded number.

▶ **Watch Video Solution**

93. The mean of 5 numbers is 18, if one number is excluded, their mean is 16. find the excluded number.

94. The mean of marks scored by 100 students was found to be 40, later on, it was discovered that a score of 53 was misread as 83. find the correct mean.

95. Obtain the sum of the deviations of the observations 3,4,6,8,14 from their mean.

96. If $\bar{x}$ is the mean of ten natural numbers $x_1, x_2, x_y. \ldots \ldots \ldots x_{10}$ show that:

$$(x_1 - \bar{x}) + (x_2 - \bar{x}) + \ldots\ldots + (x_{10}\ldots\ldots\bar{x}) = 0$$

97. Durations of sunshine in Delhi for first 10 days of Auguse, 2016 as reported by the Meterological Department are given below:

9.6,5.2,3.5,1.5,1.6,2.4,2.6,8.4,10.3,10.9

Find the mean $\bar{x}$

98. Durations of sunshine in Delhi for first 10 days of Auguse, 2016 as reported by the Meterological Department are given below:

9.6,5.2,3.5,1.5,1.6,2.4,2.6,8.4,10.3,10.9

Verify that $\displaystyle\sum_{i=1}^{10} (x_i - \bar{x}) = 0$

99. A cricketar has a mean score of 58 runs in nine innings. Find out how many runs are to be scored y him in the tenth inning to raie the mean score to 61.

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100. The average monthly salary of 20 workers in an office is Rs 7650. If the manager's salary is added, the average salary becomes Rs 8200 per month. What is the manager salary per month?

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101. The mean of 31 results is 60. if the mean of first 16 results is 58 and that of the last 16 results is 62, find the 16th results.

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102. There are 50 students in a class, of which 40 are boys. The average weight of the class is 44 kg and that of girls is 40 kg. find the average weight of the boys.

103. Find the mean of the following data

Find the mean of the following data:

x	19	21	23	25	27	29	31
f	13	15	16	18	16	15	13

104. find the mean of daily wages of 60 workers in a factory as per data given below:

Daily wages (in ₹)	90	110	120	130	150
No. of workers		12	14	13	11	10

105. Find the mean of the following frequency distribution

Variable (x)	10	30	50	70	89
Frequency (f)	7	8	10	15	10

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106. If the mean of the following frequency distribution is 8, find the value of p

is 8, find ....

x	3	5	7	9	11	13
f	6	8	15	p	8	4

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107. find the missing freuency p for the following frequency distribution whose mean is 28.25

x	15	20	25	30	35	40
f	8	7	p	14	15	6

108. If the mean of the following data is 15, find p

x	5	10	15	20	25
f	6	p	6	10	5

109. find the value of p for the following distribution whose mean is 16.6

x	8	12	15	p	20	25	30
f	12	16	20	24	16	8	4

of the following

110. Find the value of p if the mean of the following distributions is 20 distribution is 20.

x	15	17	19	20 + p	23
f	2	3	4	5p	6

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111. Find the median of the following data:

12,11,6,7,10,17,9,15,13

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112. Find the median of the following data:

15,6,16,8,22,21,9,18,25

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113. Find the median of the following data:

7,4,2,5,1,4,0,10,3,8,5,9,2

114. Find the median of the following data:

31,38,27,28,36,25,35,40

115. Find the median of the following data:

72,63,29,51,25,60,55,91,85,82

116. Find the median of the following data:

12,11,6,7,10,17,9,15,13

117. Construct a grouped frequency table with class intervals 0-5, 5 -10 and so on for the following marks obtained in Biology (out of 50) by a group of 35 students in an examination : 0, 5, 6, 7, 10, 12, 14, 15, 20, 22, 25, 26, 27, 8, 11, 17, 3, 6, 9, 17, 19, 21, 22, 29, 31, 35,37, 40, 42, 45, 49, 4, 50, 16 and 20.: Which group contains the maximum number of students ?

118. The weight of 8 children are

13.4, 10.6, 12.7, 17.2, 14.3, 15, 16.5, 9.8 find the median weight.

119. The following observation are arranged in ascending order:

26,29,42,53,x,x+2,70,75,82,93

If the median is 65 find the value of x.

120. Find the median of the following observations:

46, 74,87,41,58,77,35,90,55,92,33

If 92 is replaced by 99 and 41 by 43 in the above data, find the new median.

121. Find the median weight for the following data:

Weight (in kg.)	45	46	48	50	52	54	56
Number of students	8	5	6	9	7	4	2

...ing data:

122. Find the median for the following data:

Find the median...

Variate	23	26	20	30	28	25	18	16
Frequency	4	6	13	5	11	4	8	9

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123. Find the mode of the following data:

0,1,6,5,6,4,3,0,2,6,5,6

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124. Find the mode of the following data:

15,23,25,20,40,27,22,25,8

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125. Find the mode of the following data:

120,110,120,130,110,140,130,120,120,140

126. Find the mode of the following data:

15,23,25,20,40,27,22,25,8

127. Find the mode of the following data:

8.5,8.3,8.2,8.2,8.4,8.7,8.7,8.3,8.2,8.6,8.2

128. Calculate the mode of the following sizes of shoes, sold in a shop on a day:

4,8,7,5,8,3,2,8,1,5,4,8,6,1,2,8,9,5

129. For what value of x the mode of the following data is 5?

1,2,5,7,5,2,5,9,2,3,x,11

130. For the data 1,5,7,x+1,9,x-2,3 if the mean is 4, find the value of x. Also, find the mode of the data.

131. The points of scored by a volley ball team in a series of matches are as follows

2,17,7,25,27,5,14,18,24,10,10,48,8,7,10,28

find the median and mode for the data.

132. Calculate the mode of the following by using empirical formular

x	18	20	25	30	34	38	40
f	6	7	3	7	7	5	5

133. Calculate the mode of the following by using empirical formular

x	5	7	9	12	14	17	19	21
f	6	5	3	6	5	3	2	4

134. The following table shows the weight of 50 persons

Weight (in kg)	42	47	52	57	62	67	72
Number of persons	3	8	6	8	11	5	9

find the mean, median, and mode.

135. A survey conducted by an organisation for the cause of illness and death among the women between the ages 15-44 worldwise, found the following figure

S. No.	Causes	Female fatality rate (%)
1.	Reproductive health conditions	31.8
2.	Neuropsychiatric conditions	25.4
3.	Injuries	12.4
4.	Cardiovascular conditions	4.3
5.	Respiratory conditions	4.1
6.	Other causes	22.0

Represent the infomration given above graphically.

136. A survey conducted by an organisation for the cause of illness and death among the women between the ages 15-44 worldwise, found the following figure

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1.	Reproductive health conditions	31.8
2.	Neuropsychiatric conditions	25.4
3.	Injuries	12.4
4.	Cardiovascular conditions	4.3
5.	Respiratory conditions	4.1
6.	Other causes	22.0

Which conditions s the major cause of wome's fill health and death worldwide?

137. A survey conducted by an organisation for the cause of illness and death among the women between the ages 15-44 worldwise, found the following figure

S. No.	Causes	Female fatality rate (%)
1.	Reproductive health conditions	31.8
2.	Neuropsychiatric conditions	25.4
3.	Injuries	12.4
4.	Cardiovascular conditions	4.3
5.	Respiratory conditions	4.1
6.	Other causes	22.0

Try to find out with the help of your teacher, any two factos which play a major role in the cause in above being hte major cause.

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138. The following data on the number of girls per thousand boys in different sections of Indian society is given below:

Section	Number of girls per thousand boys
Scheduled Caste (SC)	940
Scheduled Tribes (ST)	970
Non SC/ST	920
Backward districts	950
Non-backward districts	920
Rural	930
Urban	910

Represent the information above by a bar graph.

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139. The following data on the number of girls per thousand boys in different sections of Indian society is given below:

Section	Number of girls per thousand boys
Scheduled Caste (SC)	940
Scheduled Tribes (ST)	970
Non SC/ST	920
Backward districts	950
Non-backward districts	920
Rural	930
Urban	910

In the classroom discuss the what conclusions can be arrived at from the graph.

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140. Given below are the seats won by different political parties in the polling outcome of a state assembly elections :

Political Parties	A	B	C	D	E	F
Seats Won	75	55	37	29	10	37

: Draw a bar graph to represent the polling results.

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141. Given below are the seats won by different political parties in the

polling outcome of a state assembly elections :

Political Parties	A	B	C	D	E	F
Seats Won		75	55	37	29	10	37

:   Which

political party won the maximum number of seats.

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142. The length of 40 leaves of a plant are measured correct to one

millimetre, and the obtained data is represented in the following table.

Length in mm	Number of leaves
118-126	3
127-135	5
136-144	9
145-153	12
154-162	5
163-171	4
172-180	2

: Draw a histogram to represent the given data.

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143. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table.

Length in mm	Number of leaves
118-126	3
127-135	5
136-144	9
145-153	12
154-162	5
163-171	4
172-180	2

: Is there any other suitable graphical representation for the same data ?

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144. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table:

Length (in mm)	Number of leaves
118 – 126	3
127 – 135	5
136 – 144	9
145 – 153	12
154 – 162	5
163 – 171	4
172 – 180	2

the given

Is it correct to coclude that the maximum number of leaves is 153 mm long? why?

145. The following table gives the distribution of students of two sections according to the marks obtained by them :

Section A		Section B	
Marks	Frequency	Marks	Frequency
(1-10	3	0-10	·5
10-20	9	10-20	19
20-30	17	20-30	15
30-40	12	30-40	10
40-50	9	40-50	1

: Represent the marks of the students of both the sections on the same graph by two frequency polygons. From the two polygons compare the performance of the twosections.

146. The runs scored by two teams A and B in the first 60 balls in a cricket match are given below :

Number of balls	Team A	Team B
1–6	2	5
7–12	1	6
13–18	8	2
19–24	9	10
25–30	4	5
31–36	5	6
37–42	6	3
43ÿ48	10	4
49–54	6	8
55–60	2	10

: Represent the data of both the teams on the same graph by frequency polygons.

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147. 100 surnames were randomly picked up from a local telephone directory and a frequency distribution of the number of letters in the

English alphabet in the surnames was found as follows :

Number of alphabets	Number of people
1-4	6
4-6	30
6-8	44
8-12	16
12-20	4

: Draw a histogram to depict the given information.

148. 100 surnames were randomly picked up from a local telephone directory and a frequency distribution of the number of lettes in te english alphabet in the surnames was found as follows

Number of letters	Number of surnames
1 – 4	6
4 – 6	30
6 – 8	44
8 – 12	16
12 – 20	4

Write the class interval in which the minimum number of surnames lie.

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149. Mean, median and mode are measured in same units. Is it true?

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150. Class mark of 60-90 is 75. Is it true?

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151. If the mean of 2,4,6,8,a,b is 5, find a+b.

152. If the median of $\dfrac{x}{2}, \dfrac{x}{3}, \dfrac{x}{4}, \dfrac{x}{5}$ and $\dfrac{x}{6} (x > 0)$ is 6. then find $\dfrac{x}{6}$.

153. If the median of 33,28,20,25,34,x is 29. find the maximum value of x.

154. If the mode of 13,14,15,14,16,15,x is 14, find the value of x.

155. If $\bar{x}$ represents the mean of n observations $x_1, x_2, \ldots \ldots, x_n$, then value of $\displaystyle\sum_{i=1}^{n} (x_1 - \bar{x})$ is :

156. The mid value of a class interval is 42 and the class size is 10. find the lower and upper limits.

157. Let $\bar{x}$ be the mean of $x_1, x_2, \ldots \ldots, x_n$ and $\bar{y}$ the mean of $y_1, y_2, \ldots \ldots, y_n$ $\bar{z}$ is the mean of $x_1, x_2, \ldots \ldots, x_n, y_1, y_2$ is equal to :

158. If each observation of a data is increased by 3, then what about the new man?

159. True/false

Mean, Median and Mode are measures in same units.

160. True/false

Class Mark of 90-120 is 100.

161. True/false

Mode of 2,3,9,16,3,9, is 16.

162. True/false

For the set of numbers 2,2,4,5 and 12, then Mean>mode

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163. True/false

Is arithmetic mean of 7,5,13,x and 9 is 10, then x is 5.

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164. True/false

Empirical relatin between mean, mode and median is Mode=2Median-3 Mean.

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165. True/false

Median 0,2,2,2,-3.5,-1.5,-3,6,6,5,6 is 3.5.

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166. True/false

If the mean of 5 observation x,x+2,x+4,x+6,x+8 is 11, then the mean of first three observations is 8.

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167. Let m be the mid-point and l be the upper class limit of a class in a continuous frequency ditribution. The lower class limit of the class is :

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168. True/false

10 observations 6,14,15,17,x+1,2x-13,30,32,34,43 are written in an ascending order. The medina of the data is 24. then the value of x is 20.

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169. Fill ups

Data collected by an investigator himself is called.......data.

▶ Watch Video Solution

170. Fill ups

Raw data when presented in ascending or descending order forms........................ .

▶ Watch Video Solution

171. Fill ups

Minimum value on subtraction from maximum value gives.............. .

▶ Watch Video Solution

172. Fill ups

Mode of the value of data which occurs ....number of times.

▶ Watch Video Solution

173. The besector of an angle divides it into two

▶ Watch Video Solution

174. Number of times a particular observation occurs in a given data is called _____

▶ Watch Video Solution

175. Fill ups

For a raw data, Range+Number of classes, gives...................to form a continuous frequency distribution?

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176. Fill ups

Median of following marks scored by 8 students 20,25,24,17,18,19,21,27 is.................... .

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177. The figure formed by joining the mid points of the adjacent sides of a rectangle is

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178. A rectangular sheet of paper $30cm \times 18cm$ can be transformed into the curved surface of a right circular cylinder in two ways namely, either by rolling the paper along its length or by rolling it along its breadth. Find the ratio of the volumes of the two cylinders, thus formed.

179. The difference between the highest and lowest values of the observations is called:

A. frequency

B. range

C. mean

D. class intervals.

Answer:

180. In the class intervals 10-20, 20-30, the number 20 is included in.

A. the intervals 10-20

B. the intervals 20-30

C. both intervals 10-20,20-30

D. none of the intervals

Answer:

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181. The mid value of a class interval is 42 and the class size is 10. find the lower and upper limits.

A. 47 and 37

B. 37.5 and 47.5

C. 37 and 47

D. 47.5 and 37.5

Answer:

---

182. The set of poor students in the class is :

A. 35.6

B. 30.6

C. 33.1

D. 28.1

Answer:

---

183. Tallys are usually marked in a bunch of

A. 3

B. 5

C. 4

D. 6

Answer:

---

184. The class mark of the class 100-120 is

A. 100

B. 115

C. 110

D. 120

Answer:

185. Let m be the mid-point and l be the upper class limit of a class in a continuous frequency ditribution. The lower class limit of the class is :

A. 2m-u

B. m-u

C. 2m+u

D. m+u

Answer:

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186. Let L be the lower class boundary of a class in a frequency distribution and m be the mid point of the class. Which one of the followng is the upper class boundary of the class?

A. $m + \dfrac{m - L}{2}$

B. $L + \dfrac{m + L}{2}$

C. $m - 2L$

D. 2m-L

Answer:

187. If the mean of the observations : x, x + 3, x + 5, x + 7, x + 10 is 9, the mean of the last three observations is

A. $10\dfrac{1}{3}$

B. $11\dfrac{1}{3}$

C. $10\dfrac{2}{3}$

D. $11\dfrac{2}{3}$

Answer:

188. Let $\bar{x}$ be the mean of $x_1, x_2, \ldots\ldots, x_n$ and $\bar{y}$ the mean of $y_1, y_2, \ldots\ldots, y_n$ $\bar{z}$ is the mean of $x_1, x_2, \ldots, x_n, y_1, y_2$ is equal to :

A. $(\bar{x} + \bar{y})$

B. $\dfrac{1}{n}(\bar{x} + \bar{y})$

C. $\dfrac{1}{2}(\bar{x} + \bar{y})$

D. $\dfrac{1}{2n}(\bar{x} + \bar{y})$

Answer:

▶ Watch Video Solution

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189. The mean of 100 items was found to be 64. later on, it was discovered that two itens were misread as 26 and 9 instead of 36 and 90 respectively. Find the correct mean.

A. 65.31

B. 64.86

C. 64.91

D. 64.61

Answer:

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190. The mean of the following table is 8

x	3	5	7	9	11	13
y	6	8	15	p	8	4

The value of p is

A. 23

B. 25

C. 24

D. 21

Answer:

191. The median of the number 84,78,54,45,68,22,34,45,39,54 is

A. 45

B. 54

C. 49.5

D. 56

Answer:

192. Mode of the data 15, 14, 19, 20, 14, 15, 1 6, 14, 15, 18, 14, 19, 15, 17, 15 is

A. 14

B. 16

C. 15

D. 17

Answer:

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193. In a histogram, each class rectangle is constructed with base as

    A. frequency

    B. range

    C. class intervals

    D. size of the class

Answer:

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194. A histogram is a pictorail representation of the frequency data in which intervals and frequency are respectively taken along

A. vertical axis and horizontal axis

B. horizontal axis only

C. vertical axis only

D. horizontal and vertical axes

Answer:

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195. In the less than type of ogive the comulative frequency is plotted against

A. the lower limit of the concerned class intervale

B. the upper limit of the concerned class interval

C. the mid value of the concentrate class interval

D. any value of the concerned class intervals.

Answer:

196. In a histogram the area of each rectangle is proportional to

A. the class mark of the corresponding class interval

B. frequency of the corresponding class interval

C. the class size of the correcponding class interval

D. cumulative frequency of the corrsponding class interval.

Answer:

197. In a frequency distribution, gives are graphical represented of

A. frequency

B. cummulative frequency

C. relative frequency

D. raw data

Answer:

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198. The class mark of the class 90-120 is

A. 90

B. 105

C. 115

D. 120

Answer:

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199. The range of the data: 27,18,20,16,6,17,15,12,30,32,10,19,8,11,20 is

A. 10

B. 15

C. 15

D. 26

Answer:

200. In a frequency distribution, the mid value of a class is 10 and width of

the class if 6. the lower limit of the class is

A. 6

B. 7

C. 8

D. 12

Answer:

201. The width of each of five continuous classes in a frequency distibution is 5 and the lower class limit of the lowest class is 10. the upper class limit of the highest class is

A. 15

B. 25

C. 35

D. 40

Answer:

202. Let m be the mid-point and l be the upper class limit of a class in a continuous frequency ditribution. The lower class limit of the class is :

A. 2m+l

B. 2m-l

C. m-l

D. m-2l

Answer:

203. The class marks of a frequency distribution are given as follows : 15, 20, 25, The class corresponding to the class mark 20 is :

A. 12.5-17.5

B. 17.5-22.5

C. 18.5-21.5

D. 19.5-20.5

Answer:

---

204. In the class intervals 10-20, 20-30, the number 20 is included in.

A. $10 - 20$

B. $20 - 30$

C. both the intervals

D. none of these intevals

Answer:

205. A grouped frequency table with class intervals of equal sizes using 250 -270 (270 not included in this interval) as one of the class interval is constructed observations for the following data : 268, 220, 368, 258, 242, 310, 272, 342, 310, 290, 300, 320, 319, 304, 402, 318, 406, 292, 354, 278, 210, 240, 330, 316, 406, 215, 258, 236. The frequency of the class 310 - 330 is :

A. 4

B. 5

C. 6

D. 7

Answer:

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206. A grouped frequency distribution table with classes of equal sizes using 63 - 72 (72 included) as one of the class is constructed for the following data : 30, 32, 45, 54, 74, 78, 108, 112, 66, 76, 88, 40, 14, 20, 15, 35,

44, 66, 75, 84, 95, 96, 102, 110, 88, 74, 112, 14, 34, 44. The number of classes in the distribution will be :

A. 9

B. 10

C. 11

D. 12

Answer:

207. To draw a histogram to represent the following frequency distribution

Class interval	Frequency
5 – 10	6
10 – 15	12
15 – 25	10
25 – 45	8
45 – 75	15

The adjusted frequency for the class 25–45 is:

A. 6

B. 5

C. 3

D. 2

Answer:

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208. The mean of five numbers is 30. If one number is excluded, their mean becomes 28. The excluded number is :

A. 28

B. 30

C. 35

D. 38

Answer:

209. If the mean of the observations : x, x + 3, x + 5, x + 7, x + 10 is 9, the mean of the last three observations is

A. $10\dfrac{1}{3}$

B. $10\dfrac{2}{3}$

C. $11\dfrac{1}{3}$

D. $11\dfrac{2}{3}$

Answer:

---

210. If $\bar{x}$ represents the mean of n observations $x_1, x_2, \ldots\ldots\ldots, x_n$, then value of $\displaystyle\sum_{i=1}^{n} (x_1 - \bar{x})$ is :

A. -1

B. 0

C. 1

D. n-1

Answer:

211. If each observation of the data is increased by 5, then their mean

    A. remains the same

    B. becomes 5 times the original mean

    C. is decreased by 5.

    D. is increased by 5.

Answer:

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212. The mean of 100 observations is 50. If one of the observations which was 50 is replaced by 150, the resulting mean will be :

    A. 50.5

    B. 51

    C. 51.5

    D. 52

Answer:

213. There are 50 numbers. Each number is subtracted from 53 and the mean of the numbers so obtained is found to be -3.5. The mean of the given number is:

A. 46.5

B. 49.5

C. 53.5

D. 56.6

Answer:

214. The mean of 25 observations is 36. Out of these observationsif the mean of first 13 observations is 32 and that of the last 13 observations is 40, the 13th observation is :

A. 23

B. 36

C. 38

D. 40

Answer:

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215. The median of the data 78, 56, 22, 34, 45, 54, 39, 68, 54, 84 is

A. 45

B. 49.5

C. 54

D. 56

Answer:

▶ **Watch Video Solution**

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216. Median of the following numbers : 4, 4, 5, 7, 6, 7, 7, 12, 3 is

A. 4

B. 5

C. 6

D. 7

Answer:

▶ **Watch Video Solution**

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217. Mode of the data 15, 14, 19, 20, 14, 15, 1 6, 14, 15, 18, 14, 19, 15, 17, 15 is

A. 14

B. 15

C. 16

D. 17

Answer:

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218. For drawing a frequency polygon of a continuous frequency distribution, we plot the points whose ordinates are the frequency of the respective classes and abcissae are respectively :

A. upper limits of the classes

B. lower limits of the classes

C. class limits of the preceding numbers

D. class marks of the classes

Answer:

219. If the mean of x and 1/x is M, then the mean of x^2 and $1/x^2$ is

A. M^2

B. $M^2/4$

C. $2M^2 - 1$

D. $2M^2 + 1$

Answer:

220. The mean of the ungrouped data is given by

A. $Mean = \dfrac{\sum x_i}{\sum f}$

B. $Mean = \dfrac{\sum x}{n}$

C. $Mean = \dfrac{\sum fx}{\sum n}$

D. $Mean = \dfrac{\sum fx}{n}$

Answer:

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221. The mean of x_i and x_2 is M_1 and that of x_1, x_2, x_3, x_4 is M_2. Then the mean of $ax_1, \dfrac{x_3}{a}, \dfrac{x_4}{a}$ is

A. $\dfrac{M_1 + m_2}{2}$

B. $\dfrac{aM_1 + (M_2 / a)}{2}$

C. $\dfrac{1}{2a} \left[9a^2 - 1 \right) M_1 + 2M_2 \right]$

D. $\dfrac{1}{2a} \left[\left(2 \left(a^2 - 1 \right) M_1 + M_2 \right) \right]$

Answer:

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222. If M and M_g represents the mean of the raw and grouped data, respectively then

A. $M > M_g$

B. $M \geq M_g$

C. $M_g \geq M$

D. $M = M_g$

Answer:

223. The mean of the cubes of the fist n natural number is

A. $\dfrac{n(n+1)^2}{2}$

B. $\dfrac{n(n+1)^2}{4}$

C. $\dfrac{n(n+1)(n+2)}{8}$

D. $n^2 + n + 1$

Answer:

224. The mean of first 10 natural numbers is

A. $\dfrac{5}{2}$

B. $\dfrac{11}{2}$

C. $\dfrac{13}{2}$

D. `5

Answer:

225. The average age of a group of eight is same as it was 3 years ago, when a young member is substituted for an old member, the incoming members is younger to the outgoing member by

A. 11 years

B. 24 years

C. 28 years

D. 16 years

Answer:

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226. The arithematic mean of 6,10,x and 12 is 8. the value of x is

A. 3

B. 4

C. 5

D. 6

Answer:

227. The mean age of combined groupd of men and women is 25 years. If the mean age of men is 26 years and that of women is 21 years. then the percentage of men and women in the group is

A. Men=80%, women=20%

B. Men=70%,women=30%

C. Men=50%, women=50%

D. Men=25%, women=75%

Answer:

228. If $\bar{x}_1, \bar{x}_2, \bar{x}_3, \ldots, \bar{x}_n$ are the means of n groups with $n_1, n_2, \ldots n_i$ numbers of observation respectively, then the mean $\bar{x}$ of all the group taken together is given by

A. $\displaystyle\sum_{i=1}^{n} n_i \bar{x}_i$

B. $\dfrac{o\ vereset(n) \displaystyle\sum_{i=1}^{n} n_i \bar{x}_1}{n^2}$

C. $\dfrac{\sum_{i=1}^{n} n_i \bar{x}_1}{\sum_{i=1}^{n} n_1}$

D. $\dfrac{\sum_{i=1}^{n} n_i \bar{x}_1}{2n}$

Answer:

229. The mean of x_1, x_2 is 6 and mean of x_1, x_2, x_3 is 7, find the value of x_3

230. Find the median of the following data:

12,11,6,7,10,17,9,15,13

231. Find the missing frequency k

x_i	5	10	15	20	25
f_i	2	8	k	10	5

For the data 1 5 7

from the following data if mean is 16.

232. For the data 1,5,7,x+1,9,x-2,3 if the mean is 4, find the value of x. Also,

find the mode of the data.

233. The scores of Mathemtics test

75,69,88,95,88,64,75,95,90,88,44,59,88,67,99

find the median and mode of the data.

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234. If a football team scored following number of goals in 1 matches, then find mean and median of the given data: 2,3,4,5,0,1,4,5,4,3

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235. The points scored by a basket ball team in a seris of matches are as follows:

17,2,7,27,25,5,14,18,24,48,10,8,7,10,28

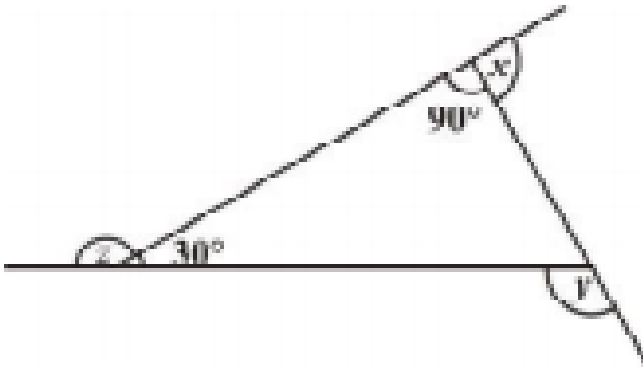Find the median and mode for the data.

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236. For what value of x the mode of the following data is 5?

1,2,5,7,5,2,5,9,2,3,x,11

237. Find x+y+z

238. The mean of the following distribution is 50

x	10	30	50	70	90
f	17	5a + 3	32	7a − 11	19

find the value of a and hence frequencies of 30 and 70.

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239. The value of $C(47, 4) + \displaystyle\sum_{r=1}^{5} (52 - r, 3)$ is:

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