MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

GRAPHICAL REPRESENTATION OF STATISTICAL DATA

Others

1. Represent the following data by means of historgram.

Weekly wages (in Rs.)   10-15 15-20   20-25   25-30 30-40   40-60 60-80

No. of workers (Frequency):   7   9   8   5   12   12   8

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2. Construct a frequency polygon for the following data:

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

3. The marks scored by 750 students in an examination are given in the form of a frequency distribution table.

.Marks

$600 - 640, 640 - 680, 680 - 720$ and $720 - 760, 760 - 800, 800 - 840, 840$

$N \odot of Students : 16451562841725918$ Represent this data in the form of a histogram and construct a frequency polygon.

4. The following table presents the number of illiterate females in the age group (10-34) in a town: Age group: 10-14   15-

19   20-24   25-29   30-34 No. of

Females: 300   980   800

580   290 Draw a histogram to represent the above

data:

5. The following are the scores of two groups of class IV students in a test

of reading ability. Scores   Group A

Group B 50-52 47-49 44-46 41-43 38-40 35-37 32-34   4 10 15 18 20 12 13

2 3 4 8 12 17 22 Total   92   68

Construct a frequency polygon for each of these two groups on the same

axes.

6. Find the mode of the following distribution of marks obtained by 80

students: Marks obtained   0-10   10-20   20-30   30-

40   40-50 No. of students   6   10

12   32   20

7. The following table gives the marks scored by 100 students in an entrance examination. Marks: 0-10   10-20 20-30 30-40 40-50 50-60 60-70 70-80 No. of Students (Frequency): 4 10 16 22 20 18 8 2 Represent this data in the form of a histogram.

8. The expenditure (in 10 crores of rupees) on health by the Govt. of India during the various five year plans in shown below: Planes: I   II II   IV   V   VI Expenditure on health (in 10 crores of rupees) 7   14   23   34   76   182 Construct a bar graph to represent the above data.

9. Construct a histogram from a following distribution of total marks obtain-ed by 65 students of IX class in the final examination: Marks(mid-points): 150 160 170 180 190 200 No. of Students 8 10 25 12 7 3

10. The following data shows the average age of men in various countries in a certain year: Country India Nepal China Pakistan U.K. U.S.A. Average age (in years) 55 52 60 50 70 75 Represent the above information by a bar graph.

11. The results of pass percentage of Class X and XII in C.B.S.E. examination for 5 years are given in the following table: Year: 1994-95 1995-

96		1996-97	1997-98		1998-99 X:		90
95	90		80		98 XII:	95	80
85	90		95 Draw bar graphs to represent the data.				

12. The investment (in ten crores of rupees) of the Life Insurance Corporation of India in different sectors are given below: Sectors Investment (In ten crores of rupees) Central Government Securities State Government Securities Securities guaranteed by the Government Private Sectors Socially oriented sectors (Plan) Socially oriented sectors (Non-Plan) 45 11 23 18 46 11 Represent the above data with the help of a bar graph.

13. The following data gives the amount of manure (in thousand tonnes) manufactured by a company during some years: year 1992 1993 1994 1995 1996 1997 Manure (in thousand tonnes) 15 35

45 30   40   20 (i) Represent the above data with the help of a bar graph. (ii) Indicate with the help of the bar graph the year in which the amount of manufactured by the company was maximum. (iii) Choose the correct alternative: The consecutive years during which there was maximum decrease in manure production are: (a 1994 and 1995 (b) 1992 and 1993(c) 1996 and 1997 (d)   1995 and 1996

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14. The following data gives the number of students of Delhi state who went abroad for study during some years: year: 1995   1996   1997

1998   1999   2000 No. of Students   1400   1600

1250   1000   2000   2200 Represent the above data with the help of a bar graph.

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15. The following is the distribution of weights (in kg) of 50 persons:

Weight (in kg) 50-55 55-60 60-65   65-70 70-75 75-80 80-85 85-90 No. of

Person 12 8   5   4   5   7   6   3 Draw a histogram for the above data.

16. The population of four major cities in India in a particular year is given below: City: Mumbai

Kolkata   Delhi   Chennai No. of

Students: 120   130   150   80

Construct a bar graph to represent the above data.

17. In a school, there are five sections of class IX. The number of students in each section is given below. Construct a bar graph representing this data: Section: A   B   C   D   E No. of Students   40   48   52

45   30

18. The following table gives the number of vehicles passing through a busy crossing in Delhi in different time intervals on a particular day. Time interval, 8 to 9 hrs, 9 to 10 hrs, 10 to 11 hrs, 11 to 12 hrs, 12 to 13 hrs, 13 to 14 hrs, 14 to 15 hrs No. of vehicles, 300, 400, 350, 250, 200, 150, 100 Represent the above data by a bar graph.

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19. Find out the mean of 1,5,8,2.

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20. Read the following bar graph shown in Figure and answer the following questions: What is the information given by the bar graph? In which month was the sale of the book maximum? In which month was the sale of the book minimum? What is the total sale of the book during these five months?

21. Read the following bar graph given in Figure and answer the following questions: What information is given by this bar graph? Which two states have same production in 1993-94? Name the state having same production in both the years? Which state has minimum production?

22. The following table shows the daily production of T.V. sets in an industry for 7 days of a week: Day, Mon, Tue, Wed, Thurs, Fri, Sat, Sun No. of T.V. Sets, 300, 400, 150, 250, 100, 350, 200 Represent the above information by a pictograph

23. The following table shows the number of Maruti cars sold by the five dealers in a particular month: Dealer, Saya, Bagga Links, D.D. Motors,

Bhasin Motor, Competent Motors Cars sold, 60, 40, 20, 15, 10 Represent the above information by a pictograph.

24. The population of Delhi State in different census years is as given below: Census year, 1961, 1971, 1981, 1991, 2001 Population in Lakhs, 30, 55, 70, 110, 150 Represent the above information with the help of a bar graph.

25. Read the bar graph shown in Figure and answer the following questions: What is the information given by the bar graph? How many tickets of Assam State Lottery were sold by the agent? Of which state, were the maximum number of tickets sold? State whether true or false. The maximum number of tickets sold is three times the minimum number of tickets sold. Of which state were the minimum number of tickets sold?

26. Study the bar graph representing the number of persons in various age groups in a town shown in Figure. Observe the bar graph and answer the following questions: What is the percentage of the youngest age-group persons over those in the oldest age group? What is the total population of the town? What is the number of persons in the age-group 60-65? How many persons are more in the age-group 10-15 then in the age group 30-35? What is the age-group of exactly 1200 persons living in the town? What is the total number of persons living in the town in the age-group 50-55? What is the total number of persons living in the town in the age-groups 10-15 and 60-65? Whether the population in general increases, decreases or remains constant with the increase in the age-group.

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27. Read the bar graph shown in Figure and answer the following questions: What is the information given by the bar graph? What was the number of commercial banks in 1977? What is the ratio of the number of

commercial banks in 1969 to that in 1980? State whether true or false: The number of commercial banks in 1983 is less than double the number of commercial banks in 1969.

28. Given below (figure) is the bar graph indicating the marks obtained out of 50 in mathematics paper by 100 students. Read the bar graph and answer the following questions: It is decided to distribute work books on mathematics to the students obtaining less then 20 marks, giving one workbook to each of such students. If a work book costs Rs.5, what sum is required to buy the work books? Every student belonging to the highest mark group is entitled to get a prize of Rs. 10. How much amount of money is required for distributing the prize money? Every student belonging to the lowest mark-group has to solve 5 problems per day. How many problems, in all, will be solved by the students of this group per day? State whether true or false. 17% students have obtained marks ranging from 40 to 49. 59 students have obtained marks ranging from 10 to 29. What is the number of students getting less than 20 marks? What

is the number of students getting more than 29 marks? What is the number of students getting marks between 9 to 40? What is the number of students belonging to the highest mark group? What is the number of students obtaining more than 19 marks?

29. Read the following bar graph (Figure) and answer the following questions: What is the information given by the bar graph? State each of the following whether true or false. The number of government companies in 1957 is that of 1982 is 1:9. The number of government companies have decreased over the year 1957 to 1983

30. Read the following bar graph and answer the following questions: What information is given by the bar graph? Which state is the largest producer of rice? Which state is the largest producer of wheat? Which

state has total production of rice and wheat as its maximum? Which state has the total production of wheat and rice minimum?

31. The following bar graph (Figure) represents the heights (in cm) of 50 students of Class XI of a particular school. Study the graph and answer the following questions: What percentage of the total number of students have their heights more than 149 cm? How many students in the class are in the range of maximum height of the class? The school wants to provide a particular type of tonic to each student below the height of 150cm to improve his height. If the cost of the tonic for each student comes out to be Rs. 55, how much amount of money is required? How many students are in the range of shortest height of the class? State whether true or false: There are 9 students in the class whose heights are in the range of 155-159 cm. Maximum height (in cm) of a student in the class is 17. There are 29 students in the class whose heights are in the range of 145-154 cm. Minimum height (in cm) of a student is the class is in the range of 140-144cms. The number of students in the class having

their heights less than 150cm is 12. There are 14 students each of whom has height more than 154 cm.

32. Read the following bar graph (Figure) and answer the following questions: What information is given by the bar graph? What was the production of cement in the year 1980-81? What is the minimum and maximum productions of cement and corresponding years?

33. The bar graph shown in Figure represents the circulation of newspapers in 10 languages What is the total number of newspapers published in Hindi, English, Urdu, Punjabi and Bengali? What percent is the number of news papers published in Hindi of the total number of newspapers? Find the excess of the number of newspapers published in English over those published in Urdu. Name two pairs of languages which publish the same number of newspapers. State the language in which the

smallest number of newspapers are published State the language in which the largest number of newspapers are published State the language in which the number of newspapers published is between 2500 and 3500. State whether true or false: The number of newspapers published in Malayalam and Marathi together is less than those published in English. The number of newspapers published in Telugu is more than those published in Tamil.

34. Read the bar graph given in Figure and answer the following questions: What information is given by the bar graph? What was the crop-production of rice in 1970-71? What is the difference between the maximum and minimum production of rice?

35. Read the bar graph given in Figure and answer the following questions: What information does it give? In which part of the

expenditure on education is maximum in 1980? In which part of the expenditure has gone up from 1980 to 1990? In which part of the gap between 1980 and 1990 is maximum?

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36. Read the bar graph given in Figure and answer the following questions: What information is given by the bar graph? In which years the areas under the sugarcane crop were the maximum and the minimum? State whether true or false: The area under the sugarcane crop in the year 1982-83 is three times that of the year 1950-51

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37. Read the bar graph given in Figure and answer the following questions: What information is given by the bar graph? What was the expenditure on health and family planning in year 1982-83 In which year is the increase in expenditure maximum over the expenditure in previous year? What is the maximum increase?

38. Read the bar graph given in Figure and answer the following questions: What is the information given by the bar graph? What is the number of families having 6 members? How many member per family are there in the maximum number of families? Also tell the number of such families. What are the number of members per family for which the number of families are equal? Also, tell the number of such families?

39. Read the bar graph given in Figure and answer the following questions: What information is given by the bar graph? Which Doordarshan centre covers maximum area? Also tell the covered area. What is the difference between the areas covered by the centres at Delhi and Bombay? Which Doordarshan centres are in U.P. State? What are the areas covered by them?

40. The following data gives the number of students of Delhi state who went abroad for study during some years: year: 1995   1996   1997   1998   1999   2000 No. of Students   1400   1600   1250   1000   2000   2200 Represent the above data with the help of a bar graph.

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41. In a school, there are five sections of class VII. The number of students in each section is given below. Construct a bar graph representing this data: Section, A, B, C, D, E No. of Students, 40, 48, 52, 45, 30

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42. The population of four major cities in India in a particular year is given below: City, Mumbai, Kolkata, Delhi, Chennai No. of Students, 120, 130, 150, 80 Construct a bar graph to represent the above data.

43. The results of pass percentage of Class X and XII in C.B.S.E. examination for 5 years are given in the following table: Year: 1994-95 1995-96 1996-97 1997-98 1998-99 X: 90 95 90 80 98 XII: 95 80 85 90 95 Draw bar graphs to represent the data.

44. Explain the reading and interpretation of bar graphs.

45. Read the following bar graph and answer the following questions: What information is given by the bar graph? In which year the export is minimum ? In which year the import is maximum ? In which year the difference of the values of export and import is maximum?

46. The following bar graph shows the results of an annual examination in a secondary school. Read the bar graph (Figure) and choose the correct alternative in each of the following: The pair of classes in which the results of boys and girls are inversely proportional are: (a) VI, VIII (b) VI, IX (c) VIII, IX (d) VIII, X The class having the lowest failure rate of girls is VII (b) X (c) IX (d) VIII The class having the lowest pass rate of students is VI (b) VII (c) VIII (d) IX

47. The production of saleable steel in some of the steel plants of our country during 1999 is given below: Plant, Bhilai, Durgapur, Rourkela, Bokaro Production (In thousand tonnes), 160, 80, 200, 150 Construct a bar graph to represent the above data on a graph paper by using the scale 1 big divisions = 20 thousand tonnes.

48. The following table gives the route length (in thousand kilometres) of the Indian Railways in some of the years: Year, 1960-61, 1970-71, 1980-81, 1990-91, 2000-2001 Route length (in thousand kilometres), 56, 60, 61, 74, 98 Represent the above data with the help of a bar graph.

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49. The following data gives the amount of loans (in crores of rupees) disbursed by a bank during some years: Year, 1992, 1993, 1994, 1995, 1996 Loan (in crores of rupees), 28, 33, 55, 55, 80 Represent the above data with the help of a bar graph. With the help of the bar graph, indicate the year in which amount of loan is not increased over that of the preceding year.

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50. The following table shows the interest paid by a company (in lakhs):

Year, 1995-96, 1996-97, 1997-98, 1998-99, 1999-2000 Interest (in lakhs of

rupees), 20, 25, 15, 18, 30 Draw the bar graph to represent the above information.

51. The following data shows the average age of men in varicus countries in a certain year: Country, India, Nepal, China, Pakistan, U.K., U.S.A Average age (in years), 55, 52, 60, 50, 70, 75 Represent the above information by a bar graph.

52. The following data gives the production of foodgrains (in thousand tonnes) for some years: Year , 1995, 1996, 1997, 1998, 1999, 2000 Production (in Thousand tonnes), 120, 150, 140, 180, 170, 190 Represent the above data with the help of a bar graph.

53. The following data gives the amount of manure (in thousand tonnes) manufactured by a company during some years: Year   1992 1993   1994   1995   1996   1997 Production (in Thousand tonnes)   15   35   45   30 40   20 Represent the above data with the help of a bar graph. Indicate with the help of the bar graph the year in which the amount of manufactured by the company was maximum. Choose the correct alternative: The consecutive years during which there was maximum decrease in manure production are: 1994 and 1995   (b) 1992 and 1993 1996 and 1997   (d) 1995 and 1996

54. The income and expenditure for 5 years of a family is given in the following data: years   1995-96 1996-97   1997-98   1998- 99   1999-00 Income (Rs. Thousands) 100   140 150   170   210 Expenditure

(Rs. in thousands)	80
130	145
160	190

Represent the above data by a bar graph.

55. The investment (in ten crores of rupees) of the Life Insurance Corporation of India in different sectors are given below: Sectors Investment (In ten crores of rupees) Central Government Securities State Government Securities Securities guaranteed by the Government Private Sectors Socially oriented sectors (Plan) Socially oriented sectors (Non-Plan) 45 11 23 18 46 11 Represent the above data with the help of a bar graph.

56. The following data gives the value (in crores of rupees) of the Indian export of cotton textiles for different years: Years, 1982, 1983-84, 1984-85, 1985-86, 1986-87 Value of Exports of Cotton Textiles (in corores of rupees),

300, 325, 475, 450, 550 Represent the above data with the help of a bar graph. Indicate with the help of a bar graph the year in which the rate of increase in exports is maximum over the preceding year.

57. The following table gives the quantity of goods (in crore tonnes) Year, 1950-51, 1960-61, 1965-66, 1970-71, 1980-81, 1982-83 Quantity of Goods (in crore tonnes), 9, 16, 20, 20, 22, 26 Represent this information with the help of a bar graph. Explain through the bar graph if the quantity of goods carried by the Indian Railways in 1965-66 is more than double the quantity of goods carried in the year 1950-51.

58. The production of oil (in lakh tonnes) in some of the refineries in India during 1982 was given below: Refinery, Barauni, Koyali, Mathura, Mumbai, Florida Production of oil (in lakh tonnes), 30, 70, 40, 45, 25 Construct a

bar graph to represent the above data so that the bars are drawn horizontally.

59. The expenditure (in 10 crores of rupees) on health by the Govt. of India during the various five year plans in shown below: Planes:

I   II   II   IV   V   VI Expenditure on health (in 10 crores of rupees) 7   14   23   34   76   182 Construct a bar graph to represent the above data.

60. The following table gives the marks scored by 100 students in an entrance examination. Marks: 0-10   10-20 20-30 30-40 40-50 50-60 60-70 70-80 No. of Students (Frequency): 4 10 16 22 20 18 8 2 Represent this data in the form of a histogram.

61. The following is the distribution of weights (in kg) of 50 persons:

Weight: 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 80-85, 85-90 No. of Person,

12, 8, 5, 4, 5, 7, 6, 3 Draw a histogram for the above data.

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62. Represent the following data by means of historgram. Weekly wages

(in Rs.) 10-15 15-20 20-25 25-30 30-40 40-60 60-80 No. of workers

(Frequency): 7 9 8 5 12 12 8

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63. Find out the mode 1,1,1,1,1,1,5,5,5,10,10,10,100,100,698,698,698,698,12056

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64. Find out the mode 1,1,3,5,6,7,1,1,10,3,3,5,1,1,5,1,1,1,6,7

65. Find out the mean & mode 1,3,1,6,4

66. Find out the mean of 12,10,20

67. For the following data, draw a histogram and a frequency polygon:

Marks: 0-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 900-100 No. of Students 5 10 4 6 7 3 2 2 3 9

68. The marks scored by 750 students in an examination are given in the form of a frequency distribution table. Marks 600-640 640-680 680-720 720-760 760-800 800-840 840-880 No. of Students: 16 45 156 284 172 59 18 Represent this data in the form of a histogram and construct a frequency polygon.

69. Construct a frequency polygon for the following data: Age (in year) 0-2   2-4   4-6   6-8   8-10   10-12 12-14   14-16 16-18 Frequency   2   4   6   8   9   6   5   3   1

70. The following are the scores of two groups of class IV students in a test of reading ability. Scores Group A Group B 50-52 47-49 44-46 41-43 38-40 35-37 32-34 4 10 15 18 20 12 13 2 3 4 8 12 17 22 Total 92 68 Construct a frequency polygon for each of these two groups on the same axes.

71. First find the frequencies of 2,2,3,3,3,3,3,5,6,6,6,8 and then find mode.

72. The distribution of heights (in cm) of 96 children is given below. Construct a histogram and a frequency polygon on the same axes. Height (in cm):, 124-128, 128-132, 132-136, 136-140, 140-144, 144-148, 148-152, 152-156, 156-160, 160-164 No. of Children, 5, 8, 17, 24, 16, 12, 6, 4, 3, 1

73. Find average speed of 40m/s and 50m/s.

74. Find the average height of 150cm,140cm,160cm.

75. If Ramesh score 50 marks in English and 60 marks in Math. Find out the average marks he secure.

76. Find mean and mode of 2,2,3,1.

77. Draw a histogram for the daily earnings of 30 drug stores in the following table: Daily earning (in Rs.), 450-500, 500-550, 550-600, 600-650, 650-700 No. of Stores:, 16, 10, 7, 3, 1

78. The monthly profits (in Rs.) of 100 shops are distributed as follows:

Profits per shop: 0-50 50-100 100-150 150-200 200-250 250-300 No. of shops: 12 18 27 20 17 6 Draw the frequency polygon for it.

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79. Which one of the following is not the graphical representation of statistical data: bar graph (b) Histogram Frequency polygon (d) Comulative frequency distribution

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80. In a frequency distribution, ogives are graphical representation of (a) Frequency (b) Relative frequency (c) Cumulative frequency (d) Raw data

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81. A frequency polygon is constructed by plotting frequency of the class interval and the (a) upper limit of the class   (b) lower limit of the class (c) mid value of the class   (d) any values of the class

82. Mean is also known as (a) median (b) average (c) range (d) frequency

83. In a histogram the class intervals or the groups are taken along (a)Y-axis   (b) X-axis (c)both of X-axis and Y-axis (d) in between X and Y axis

84. A histogram is a pictorial representation of the grouped data in which class intervals and frequency are respectively taken along

(a) vertical axis and horizontal axis

(b) vertical axis only

(c) horizontal axis only

(d) horizontal axis and vertical axis.

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

frequency   (b) class intervals range   (d) size of

the class

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