MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

INTRODUCTION TO GRAPHS

Others

1. Plot the points $A(10,\ 50),\ B(15,\ 20),\ C\,(40,\ 10) and\ D\,(60,\ 80)$

on the graph paper.

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2. Plot the points $A\ (3,\ 0),\ B\ (5, 0) and\ C\ (8,\ 0)$. What do you observe where do they lie? Also, plot the points $P\ (0,\ 2),\ Q(0, 5)$ and $R(0, 9)$. Do they lie on x-axis?

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3. Plot each of the following points $A(2,\ 3),\ B\,(5,\ 3),\ C\,(5,\ 5) and\ D\,(2,\ 5).$ Connect the points in order, i.e. $A\ \rightarrow\ B,\ B\ \rightarrow\ C$ and so on.

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4. Plot any three points such that x-coordinate of each point is equal to its y-coordinate. Join these points in pairs. Do they lie on a line passing through the origin?

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5. Write the coordinates of third vertex of a triangle having centroid at the origin and two vertices at (3,-5, 7) and (3,0,1).

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6. Plot the points (5, 0), (5, 1), (5, 8). Do they lie on a line? Whatis your observation?

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7. Plot the points (2, 8), (7, 8) and (12, 8). Join these points in pairs. Do they lie on a line? what do you observe?

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8. Locate the points: (1, 1), (1, 2), (1, 3), (1, 4) (2, 1), (2, 2), (2, 3), (2, 4) (1, 3), (2, 3), (3, 3), (4, 3) (1, 4), (2, 4), (3, 4), (4, 4)

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9. Find the coordinates of points $P,\ Q,\ R\ and\ S$ in Figure.

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10. Write the coordinates of each of the vertices of each polygon in Figure.

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11. Decide which of the following statements is true and which is false. Give reasons for your

answer. A point whose x-coordinate is zero, will lie on the y-axis. A point whose y-coordinate is zero, will lie on x-axis. The coordinates of the origin are (0, 0). Points whose $x \, and \, y$ coordinates are equal, lie on a line passing through the origin.

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12. Following table gives the temperature at 12:00 noon on seven successive days in a city: Day (November), 1, 2, 3, 4, 5, 6, 7 Temperature (in

^0C) : , 14, 18, 14, 16, 20, 15, 18 Plot a graph to illustrate this information:

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13. The quantity of petrol filed in a car and the cost of petrol are given in the following table: Litres of petrol filled:, 10, 15, 20, 25 Cost of petrol:, 500, 750, 1000, 1250 Draw a graph representing the above data: Also, find the cost of 12 litres of petrol using the graph. How much petrol can be purchased for Rs. 800?

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14. The perimeter P and sides of a square are connected by the relation $P = 4s$. Draw the graph of this relation on the graph paper.

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15. The temperature of patient, admitted in a hospital with typhoid fever, taken at different times of the day are given below. Draw the temperature-time graph to represent the data:

Time (in hours), 6:00, 8:00, 10:00, 12:00, 14:00, 16:00, 18:00 Temp. (in ^0F) : , 102, 100, 99, 103, 100, 102, 99

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16. A car is going for a long journey of 16 hours, starting at 5:00 hrs. The speeds of the car at different hours are given below: Time (in hours):, 5:00, 7:00, 9:00, 11:00, 13:00, 15:00, 17:00, 19:00, 21:00 Speed (in km/hour):, 40, 50, 60, 80, 70, 65, 75, 60, 50. Draw a velocity-time graph for the above data:

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17. The sales of a shopkeeper in the first week of January 2002, are given below Date:, 1, 2, 3, 4, 5, 6, 7 Sales (in Rs), 5000, 5100, 4900, 5800, 6000, 5500, 5200 Draw a graph representing the above data.

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18. The runs scored by a cricket team in first 10 over are given below: Overs:, I, II, III, IV, V, VI, VII,

VIII, IX, X Runs:, 2, 3, 1, 6, 4, 3, 8, 12, 4, 10. Draw a graph representing the above data.

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19. The maximum temperature on 10 days of June, 2002, in Delhi is given below: Date:, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 Max. Temp. (in ^0C) : , 40.5, 41, 39, 40, 42, 43, 44, 40, 38, 39 Draw a temperature-time graph for the above data.

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20. Given below is the temperature chart of a patient. Find the temperature of the patient at 12:00 hours and 18:00 hours. At what time is the temperature (ii) highest? (ii) lowest?

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21. The graph shown in Figure exhibits the rate of interest on fixed deposits upto one year announced by the Reserve Bank of India in different years. Read the graph and find: In which period was the rate of interest

maximum? In which period was the rate of interest minimum?

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22. The following data shows the number of patients discharged from a hospital with HIV diagnosis in different years: Years:, 2002, 2003, 2004, 2005, 2006 No. of Patients:, 150, 170, 195, 225, 230 Represent this information by a graph.

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23. The following table shows the amount of rice grown by a farmer in different years: Years:, 2000, 2001, 2002, 2003, 2004, 2005, 2006 Rice grown (in quintals):, 200, 180, 240, 260, 250, 200, 270 Plot a graph to illustrate this information.

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24. The following table gives the information regarding the number of persons employed to a piece of work and time taken to complete the

work: No. of persons:, 2, 4, 6, 8 Time taken (in days):, 12, 6, 4, 3 Plot a graph of this information.

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25. The following table gives the information regarding length of a side of a square and its area: Length of a side (in cm):, 1, 2, 3, 4, 5 Area of square $\left(\in cm^2 \right)$, 1, 4, 9, 16, 25 Draw a graph to illustrate this information.

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26. Draw the temperature-time graph in each of the following cases: Time (in hours:), 7:00, 9:00, 11:00, 13:00, 15:00, 17:00, 19:00, 21:00 Temperature $^0F) \in$, 100, 101, 104, 102, 100, 99, 100, 98 (ii) Time (in hours), 8:00, 10:00, 12:00, 14:00, 16:00, 18:00, 20: Temperature $\left(^0F\right)$ in, 100, 101, 104, 103, 99, 98, 100

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27. Draw the velocity-time graph from the following data: Time (in hours), 7:00, 8:00, 9:00, 10:00, 11:00, 12:00, 13:00, 14:00 Speed in km/hr, 30, 45, 60, 50, 70, 50, 40, 45

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28. The runs scored by a cricket team in first 15 overs are given below: Overs, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV, XV Runs:, 2, 1, 4, 2, 6, 8, 10, 21, 5, 8, 3, 2, 6, 8, 12 Draw the graph

representing the above data in two different ways as a graph and as a bar chart.

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29. The runs scored by two teams $A \ and \ B$ in first 10 overs are given below: Overs, I, II, III, IV, V, VI, VII, VIII, IX, X Team A:, 2, 1, 8, 9, 4, 5, 6, 10, 6, 2 Team B:, 5, 6, 2, 10, 5, 6, 3, 4, 8, 10 Draw a graph depicting the data, making the graphs on the same axes in each case in two different ways as a graph and as a bar chart.

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