# d'doubtnut 

# India's Number 1 Education App 

## MATHS

## BOOKS - SWAN PUBLICATION

## DATA HANDLING

Questions

1. A pictograph : Pictorial representation of data using symbols.

| $=100$ cars One symbol stands for 100 cars |  |  |
| :--- | :--- | :--- |
| July |  | $=250$ |
|  |  | denotes $\frac{1}{2}$ of 100 |
|  |  | $=300$ |
| August |  | $=?$ |
| September |  |  |

How many cars were produced in the monthe of July ?
2. A pictograph : Pictorial representation of data using symbols.

| $=100$ cars $\leftarrow$ One symbol stands for 100 cars |  |  |
| :--- | :--- | :--- |
| July |  | $=250$ |
|  |  | denotes $\frac{1}{2}$ of 100 |
|  |  | $=300$ |
| August |  | $=?$ |
| September |  |  |

In which month were produced were maximum number of cars produced ?

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3. A bar graph : A display of information using bars of uniform width, their heights being proportional to the respective values.

What is the information given by the bar graph ?


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4. A bar graph : A display of information using bars of uniform width, their heights being proportional to the respective values. In which year is the number of students maximum ?

5. A bar graph : A display of information using bars of uniform width, their heights being proportional to the respective values. In which year is the number of students maximum ?


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6. Find $x+y+z$


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7. Double Bar Graph : A bar graph showing two sets of data simultaneously . It is useful for the comparison of the data.


What is the information given by the double bar graph ?

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8. Double Bar Graph : A bar graph showing two sets of data simultaneously. It is useful for the comparison of the data.


In which cubject has the performance improve the most ?

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9. Double Bar Graph : A bar graph showing two sets of data simultaneously. It is useful for the comparison of the data.


In which subject has the performance deteriorated ?

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10. Double Bar Graph : A bar graph showing two sets of data simultaneously . It is useful for the comparison of the data.


In which subject is the performance at par ?

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## Think Discuss And Write

1. If we change the position of any of the bars of a bar graph, would it change the information being conveyed ? Why ?

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

Production of food grains of a state

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

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

Choice of food for a group of people :

| Favourite food | Number of people |
| :--- | :---: |
| North Indian | 30 |
| South Indian | 40 |
| Chinese | 25 |
| Others | 25 |
| Total | 120 |

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

The daily income of a group of a factory workers :

| Daily Income <br> (in ₹) | Number of workers <br> (in a factory) |
| :--- | :---: |
| $75-100$ | 45 |
| $100-125$ | 35 |
| $125-150$ | 55 |
| $150-175$ | 30 |
| $175-200$ | 50 |
| $200-225$ | 125 |
| $225-250$ | 140 |
| Total | 480 |

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5. In throwing a die: Does the first player have a greater chace of getting a six?
6. In throwing a die: Would the player who played at second have a lesser chance of getting a six?

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

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## Try These

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

| Mọnth | Number of watches sold |
| :--- | :---: |
| July | 1000 |
| August | 1500 |
| Sept. | 1500 |
| Oct. | $2 \hat{0} 00$ |
| Nov. | 2500 |
| Dec. | 1500 |

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

| Children. <br> who prefer | School A | School B | School C |
| :--- | :---: | :---: | :---: |
| Waikìng | 40 | 55 | 15 |
| Cycling | 45 | 25 | 35 |Watch Video Solution

}
3. Draw an appropriate graph to represent the given information.

Percentage wins in ODI by 8 top cricket teams :

| Teams | From Champions <br> Trophy to <br> World Cup-06 | Last 10 <br> ODI in 07 |
| :--- | :---: | :---: |
| South Africa | $75 \%$ | $\mathbf{7 8 \%}$ |
| Australia | $61 \%$ | $40 \%$ |
| Sri Lanka | $54 \%$ | $38 \%$ |
| New Zealand | $47 \%$ | $50 \%$ |
| England | $46 \%$ | $50 \%$ |
| Pakistan | $\mathbf{4 5 \%}$ | $\mathbf{4 4 \%}$ |
| West Indies | $\mathbf{4 4 \%}$ | $\mathbf{3 0 \%}$ |
| India | $\mathbf{4 3} \%$ | $\mathbf{5 6 \%}$ |

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4. A group of students were asked to say which animal they would like most to have as a pet.The results are given below:dog,cat,cat,fish,cat ,rabbit,dog,cat,rabbit,dog,cat,dog,dog,dog,cat,cow,fish,rabbit,dog,cat,dog,cat,ci Make a frequency distibution table for the same.
5. Study the following frequency distribution table and answer the questions given below:

Frequency Distribution of Daily Income of 550 workers of factory : -

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

What is the size of the class intervals ?

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6. Study the following frequency distribution table and answer the questions given below:

Frequency Distribution of Daily Income of 550 workers of factory : -

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

Which class has the highest frequency ?

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7. Study the following frequency distribution table and answer the questions given below:

Frequency Distribution of Daily Income of 550 workers of factory : -

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

Which class has the lowest frequency ?

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8. Study the following disttribution table and answer the questions given below:

Frequency Distribution of Daily Income of 550 workers of a factory ?

upper limit of the class-interval 250-275?

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9. Study the following disttribution table and answer the questions given below:

Frequency Distribution of Daily Income of 550 workers of a factory ?

classes have the same frequency ?

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10. Construct a frequency distribution table for the data on weights (in kg.) of 20 students of a class using intervals 30-35,35-40 and so on. $40,38,33,48,60,53,31,46,34,36,49,41,55,49,65,42,44,47,38,39$.

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11. The following graph represents the ages of 25 teachers of a school : From the bars of this histogram, we can answer the following questions : How many teachers are of age 45 years or more but less than 50 years ?


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12. The following graph represents the ages of 25 teachers of a school :

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

How many teachers are of age less than 35 years?


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13. Observe the histogram (Fig.) and answer the questions given below :


What information is being given by the histogram ?

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14. Observe the histogram (Fig.) and answer the questions given below :


Which group contains maximum girls ?
15. Observe the histogram (Fig.) and answer the questions given below :


How many girl have a height of 145 cms and more?

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16. Observe the histogram (Fig.) and answer the questions given below :


If we divide the girls into the following three categories, how many would there be in each?
150 cm and more

- Group A
140 cm to less than 150 cm - Group B
Less than 140 cm - Group C


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17. Each of the following pie charts gives you a different piece of information about your class. Find the fraction of the circle representing each of these information :

(i)

Girls or Boys

(ii)

Transport
to school

(iii)
$\begin{array}{r}15 \\ H 2 \\ \hline\end{array}$
Love/Hate
Mathematics

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18. Answer the following questions based on the pie chart given :

Which type of programmes are viewed the most ?

Viewers watching different types of channels on T.V.
Informative


Entertainment 50\% .

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19. Which two ttypes of programmes have number of viewers equal to those watching sports channels ?

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

The time spent by a child during a day.

Sleep

- 8 hours
$\begin{array}{ll}\text { School } & -6 \text { hours } \\ \text { Home work } & -\quad 4 \text { hours } \\ \text { Play } & -\quad 4 \text { hours } \\ \text { Others } & -\quad 2 \text { hours }\end{array}$


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

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

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23. When you spin the wheel shown, what are the possible outcomes?
(Fig.)List them.
(outcome here means the sector at which the pointer stops.)


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24. You have a bag with five identical balls of different colours and you are to pull out (draw ) a ball without looking at it,list theoutcomes you would get (Fig.)
25. List the number of out comes of getting a green sector and not getting a green sector on this wheel.

26. Suppose you spin the wheel


Find the probability of getting a green sector.

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27. Suppose you spin the wheel


Find the probability of not getting a green sector.

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Exercise 51

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

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2. For which of these would you use a histogram to show the data : The height of competitors in an athletics meet.Give reasons for each

## - Watch Video Solution

3. For which of these would you use a histogram to show the data : The number of cassettes produced by 5 companies.Give reasons for each

## - Watch Video Solution

4. For which of these would you use a histogram to show the data : The number of passengers boarding trains from 7:00 a.m. to 7:00 p.m. at a station.Give reasons for each

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5. People who come to a departmental store are marked as : Man (M),Woman (W), Boy (B) or Girl ( G).The following list gives the shoppers who came during the first hour in the morning: W W W G B W W M,G G M M W W W W G B M W BGGMWWMMWWWMWBWGMWWW W G W M M W W M W G W M G W M M B G G W.Make a frequency distribution table using tally marks.

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6. The weekly wages of 30 workers in a factory are. $830,835,890,810,835$, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885,
$835,835,836,878,840,868,890,806,840$ Using tally marks make a frequency table with intervals as 800-810, 810-820 and so on

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7. Draw a histogram for the frequency table made for the data in Question 3,and answer the following questions.

Which group has the maximum number of workers ?

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8. Draw a histogram for the frequency table made for the data in

Question 3,and answer the following questions. How many workers earn Rs 850 and more ?

## - Watch Video Solution

9. Draw a histogram for the frequency table made for the data in Question 3,and answer the following questions. How many workers earn Rs 850 and more ?

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10. The number if hours for which students of a particular class watches television during holidays is shown through the given graph.


Hours of TV watched per day $\rightarrow$

Answer the following :

For how many hours did the maximum number of students watch TV ?

## - Watch Video Solution

11. The number if hours for which students of a particular class watches television during holidays is shown through the given graph.


Hours of TV watched per day $\rightarrow$

Answer the following :

How many students watched TV for less than 4 hours ?

## - Watch Video Solution

12. The number if hours for which students of a particular class watches television during holidays is shown through the given graph.


Hours of TV watched per day $\rightarrow$

## Answer the following :

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

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## Exercise 52

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


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

## - Watch Video Solution

2. Which types of music is liked by the maximum number of people ?

## - Watch Video Solution

3. If a cassette company were to make 1000 CD's, how many of each type would they make ?

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


Which season got the most votes ?

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5. A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer : Find the central angle
of each sector.


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

Draw a pie chart to sow this information.


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7. Draw a Pie-chart showing the following information.The table sohws the colours preferred by a group of people.

## Blue <br> Green <br> Red Yellow Total

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


In which subject did the student score 105 marks ?
(Hint : for 540 marks, the central angle $=360^{\circ}$. So, for 105 marks, what is the central angle ?)

## - Watch Video Solution

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

How many more marks were obtained by the student in Mathematics
than in Hindi?


## - Watch Video Solution

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


Examine whether the sum of the marks obtained in Social Scinece and Mathematics is more than that in Science and Hindi
(Hint : Just study the central angles.)

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11. The number of students in a hostel,speaking different languages is given below.Display the data in a pie chart.
12. List the outcomes you can see in these experiments: Spinning a wheel

13. List the outcomes you can see in these experiments.


Tossing two coins together

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

## - Watch Video Solution

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

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5. Find $x+y+z$


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6. Probablity of getting an ace from a well shuffled deck of 52 playing cards.

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7. Find the :

Probability of getting a red apple. (See figure below)

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

## - Watch Video Solution

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

## D Watch Video Solution

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

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

## - Watch Video Solution

13. Find the probabilities of the events: When a die is thrown, list the outcomes of an event of getting a prime number

L

$\square$

