MATHS

BOOKS - MTG IIT JEE FOUNDATION

DATA HANDLING

Illustrations

1. The following data shows the number of children in 20 families

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

Make a frequency table for above data

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2. The following data shows the amount of money each student in class VII of a school spends in school canteen in one day

6	4	14	8	20	4	6	12	14	8
6	10	14	4	14	10	16	6	12	14
12	4	20	6	10	10	6	18	4	10
12	16	6	18	8	4	10	6	8	10

Prepare a frequency distribution table

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3. A race was completed by seven participants . Their respective timings to complete the race (in seconds) are given

$13.2, 14.5, 12.9, 13.9, 15.6, 14.1, 12.3$

Find the range of their timings

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4. Find the range of 9, 8, 12, 23, and 15

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5. If the heights of 5 persons are 144 cm, 152 cm, 151 cm, 158 cm and 155 cm respectively. Find the mean height.

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6. Find the mean of 13, 16.4, 18.8, 9.2, 15.6, and 9.8

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7. Find the median of the given data

11, 16, 12, 15, 20, 17, 19

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8. The marks secured in Mathematics test (out of 25) by 10 students are as follows

18, 25, 23, 20, 9, 15, 10, 5, 16, 24

Calculate the median

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9. Find the mode, if the following numbers of goals were scored by a team in a series of 10 matches.

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

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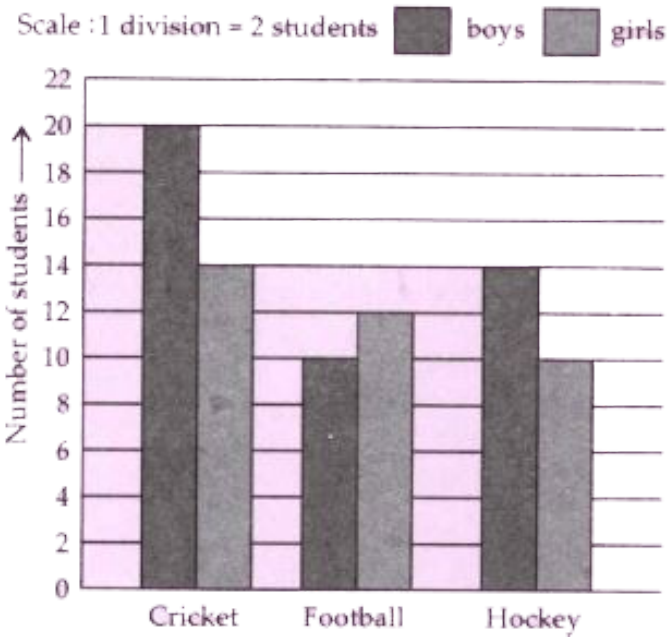
10. The following bar graph shows the number of students played three different game



How many more boys like Cricket and Hockey together than girls

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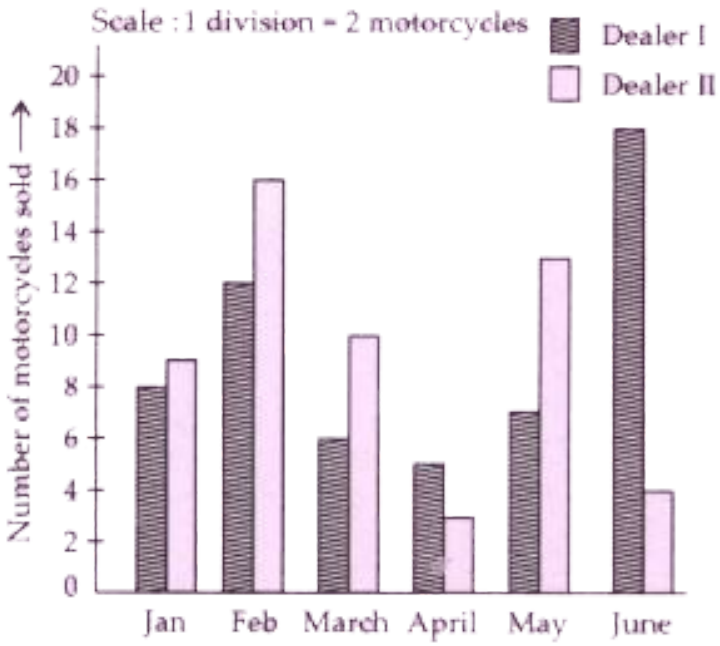
11. The data given below shows the number motorcycles of the same brand sold by two dealers in the first six months of a year



Find the total number of motorcycles sold by dealer II

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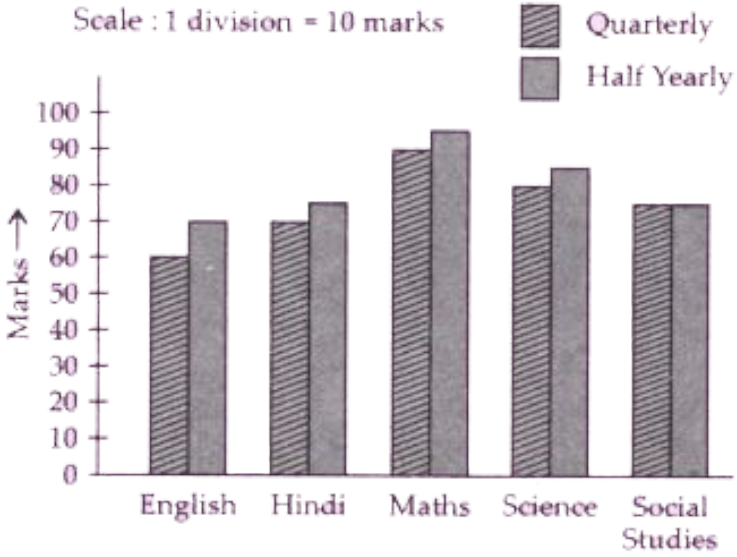
12. The performance of a students is quarterly and half yearly examination is shown through the double bar graph



In which subject has t he student improved his performance the most

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13. In a cricket match a batsman hits 'sixer' four times form 12 balls . Find the probability of

hitting a 'sixer'

Watch Video Solution

14. In a cricket match a batsman hits 'sixer' four times form 12 balls . Find the probability of

not hitting a 'sixer'

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15. A box contains pair of socks of two colours (black and white). I have picked out a white socks. I pick out one more with my eyes closed. What is the probability that it will make a pair ?

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Solved Examples

1. Given below is the data showing the number of children in 20 families of a locality :

3, 1, 3, 2, 2, 2, 0, 3, 4, 2, 1, 3, 2, 4, 1, 2, 2, 3, 1, 3

Arrange the data in ascending order and then prepare a frequency table

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2. Given below is the heights (in cm) of 16 girls in a class :

154,150,152,154,150,148,152,152,154,150,152,154,152,152,154,152

Arrange the data in ascending order and prepare the frequency table

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3. The pocket - expenses of Rahul during a week are :

Rs 15.40, Rs 18.00, Rs 16.50, Rs 14.75, Rs 12.60, and Rs 17.25

Find his mean pocket - expenses

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4. The heights of 7 players in a group are 175 cm, 158 cm, 180 cm, 164 cm, 182 cm, 160 cm and 171 cm .

find their mean height

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

25, 39, 53, 18, 65, 72, 0, 46, 31, 08, 34

Find the median score

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6. The weights of 10 students (in kg) are

40, 52, 34, 47, 31, 35, 48, 41, 44, 38

Find the median weight.

Watch Video Solution

7. Given below is the number of pairs of pairs of shoes of different sizes sold in a day by the owner of a shop

Size of shoes	1	2	3	4	5	6	7	8	9
Number of pairs sold	1	2	2	3	4	5	3	7	2

Find mode of given data

Watch Video Solution

8. The marks obtained by 11 students of a class in a test are given below :

23, 2, 15, 38, 21, 19, 23, 23, 26, 34, 23

Find the mode of given data

Watch Video Solution

9. A batsman scored the following runs in six different innings :

37, 40, 50, 49, 60, 58

Calculate the mean of the runs scored by him

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10. Find the median of the give data :

10, 16, 13, 15, 22, 18, 19

Watch Video Solution

11. The marks secured in English test (out of 30) by 10 students are as follows :

22, 25, 23, 20, 8, 16, 13, 5, 18, 25

Calculate the median

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12. The heights of 10 students of Class VII are given below (in centimetres) :

141, 151, 148, 162, 136, 143, 161, 150, 135, 145,

Find the range of the heights

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13. The marks (out of 100) obtained by a group of students in Mathematics test are :

88, 74, 90, 88, 40, 46, 58, 96, 82, and 78. Find :

mean marks obtained by the group

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14. The marks (out of 100) obtained by a group of students in Mathematics test are :

88, 74, 90, 88, 40, 46, 58, 96, 82, and 78. Find :

median of the marks obtained

Watch Video Solution

15. The marks (out of 100) obtained by a group of students in Mathematics test are :

88, 74, 90, 88, 40, 46, 58, 96, 82, and 78. Find :

mode of the marks obtained

Watch Video Solution

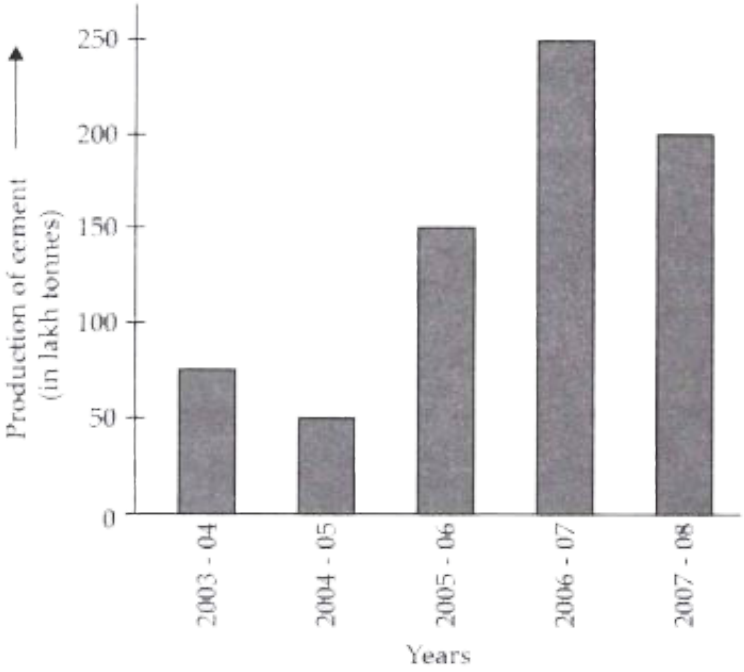
16. The marks (out of 100) obtained by a group of students in Mathematics test are :

88, 74, 90, 88, 40, 46, 58, 96, 82, and 78. Find :

range of the marks obtained

Watch Video Solution

17. Read the graph and answer the following questions



What information is conveyed by the bar graph

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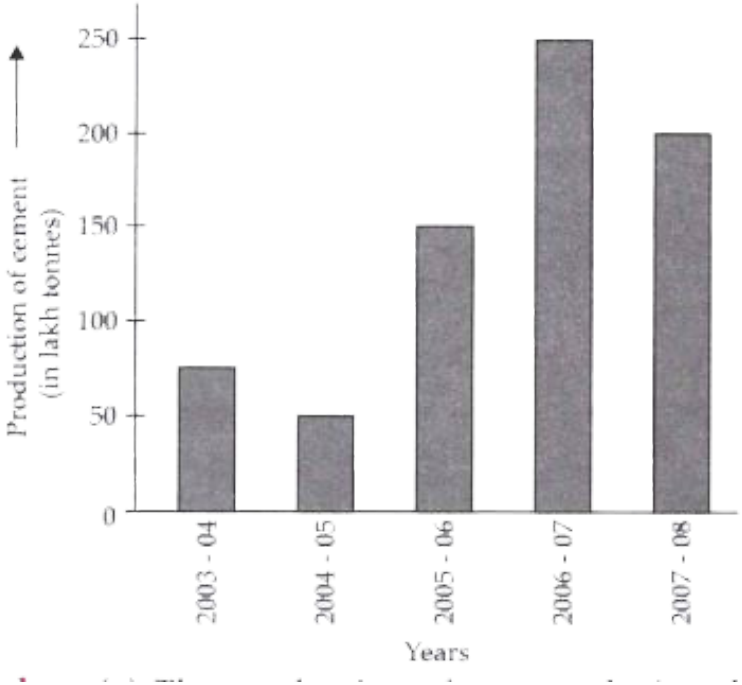
18. Read the graph and answer the following questions



What was the production of cement in the year 2006-07 ?

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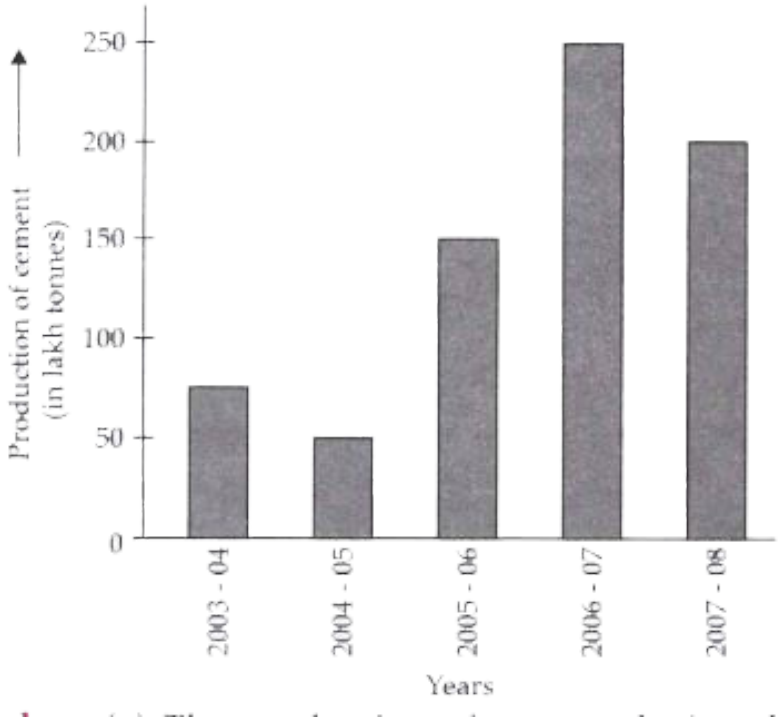
19. Read the graph and answer the following questions



During which period, the production was minimum ?

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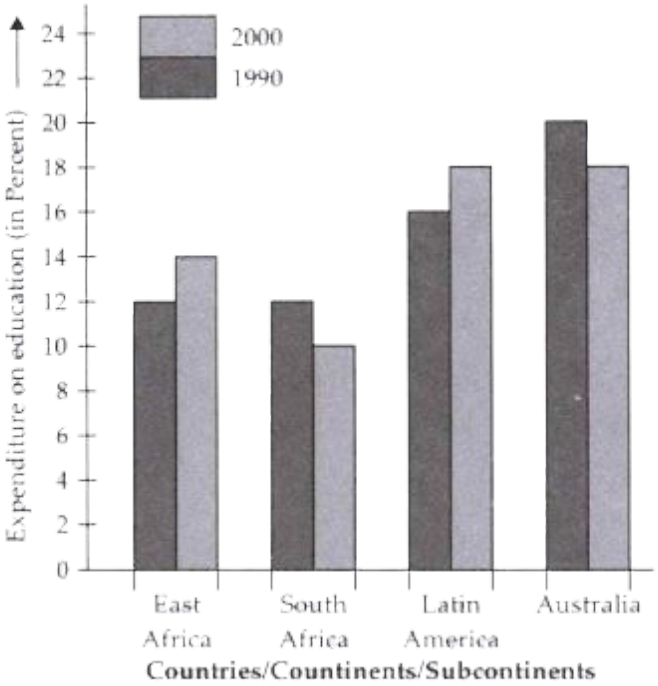
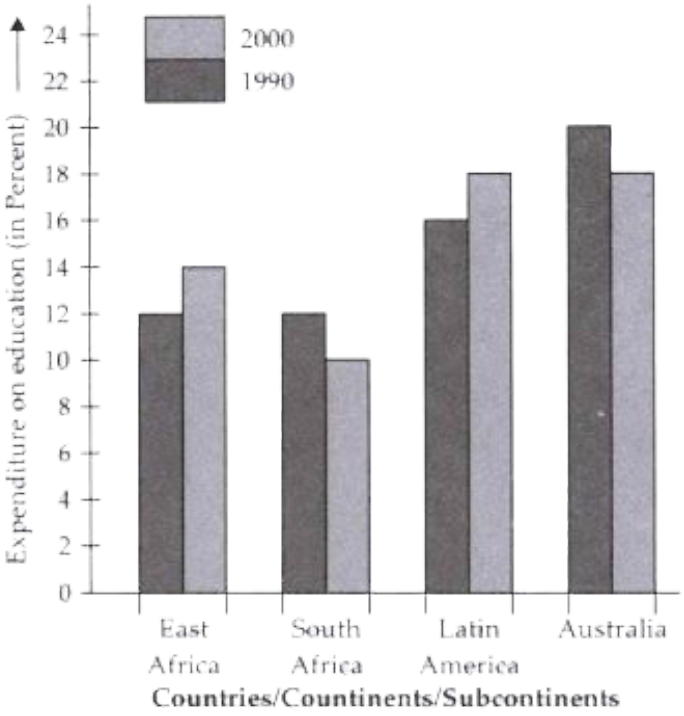
20. Read the graph and answer the following questions



Give a suitable title to bar graph

Watch Video Solution

21. Read the graph and answer the following questions



In which part the expenditure on education is maximum in 1990?

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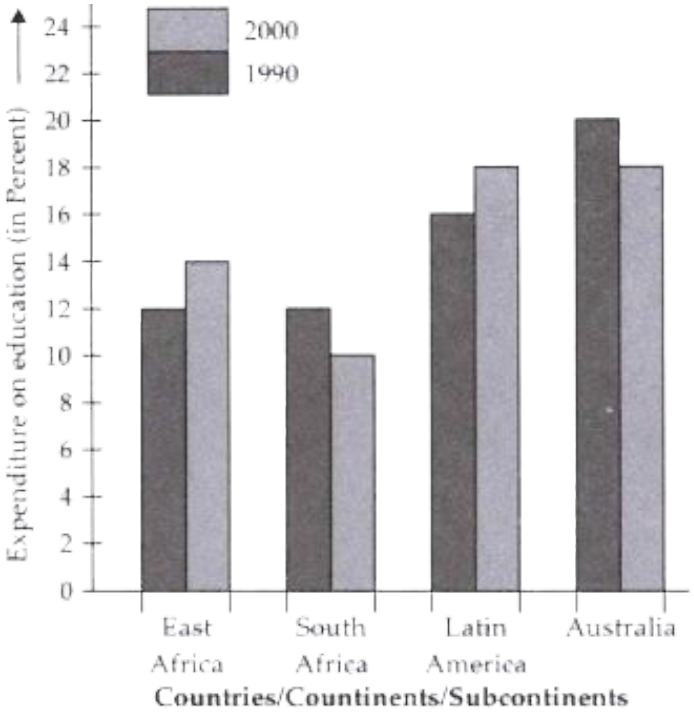
22. Read the graph and answer the following questions



In which part other expenditure gone up form 1990 to 2000 ?

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23. To know about the liking of Science as a subject , a survey of 200 students was conducted and the data obtained is given below :

Liking - 125, Disliking - 75

Find the probability that a student chosen at random

does not like Science as a subject

Watch Video Solution

24. To know about the liking of Science as a subject , a survey of 200 students was conducted and the data obtained is given below :

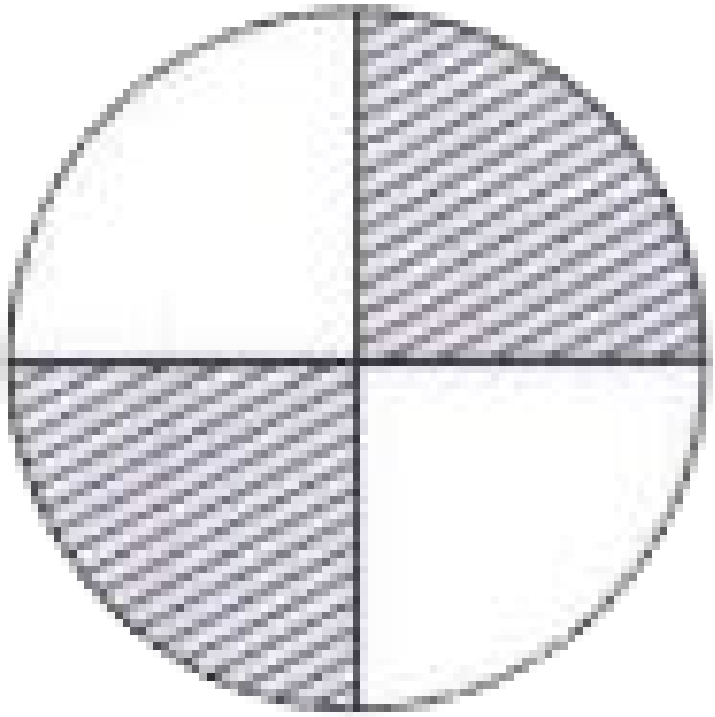
Liking - 125, Disliking - 75

Find the probability that a student chosen at random

likes Science as a subject

Watch Video Solution

25. Find the probability of selecting shaded portion :



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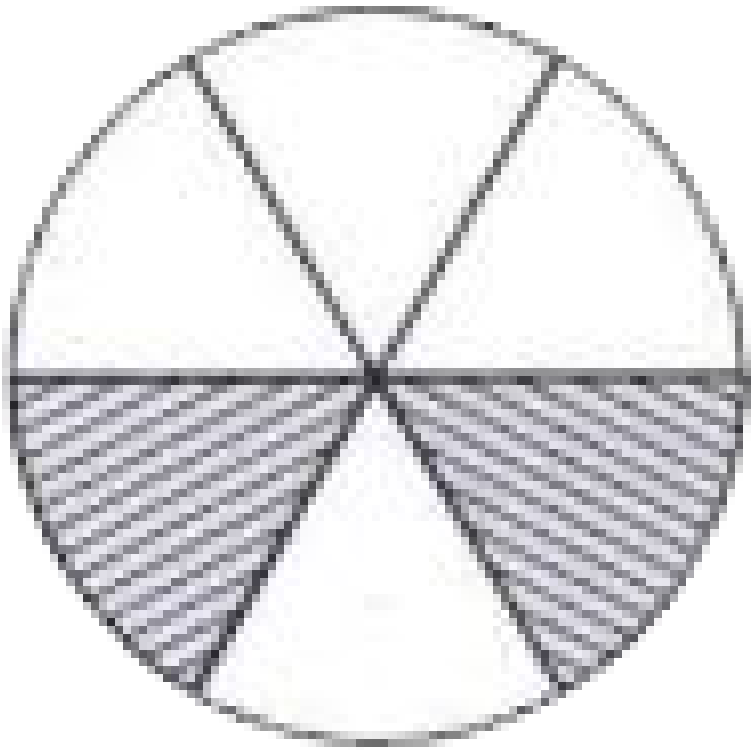
26. Find the probability of selecting shaded portion :



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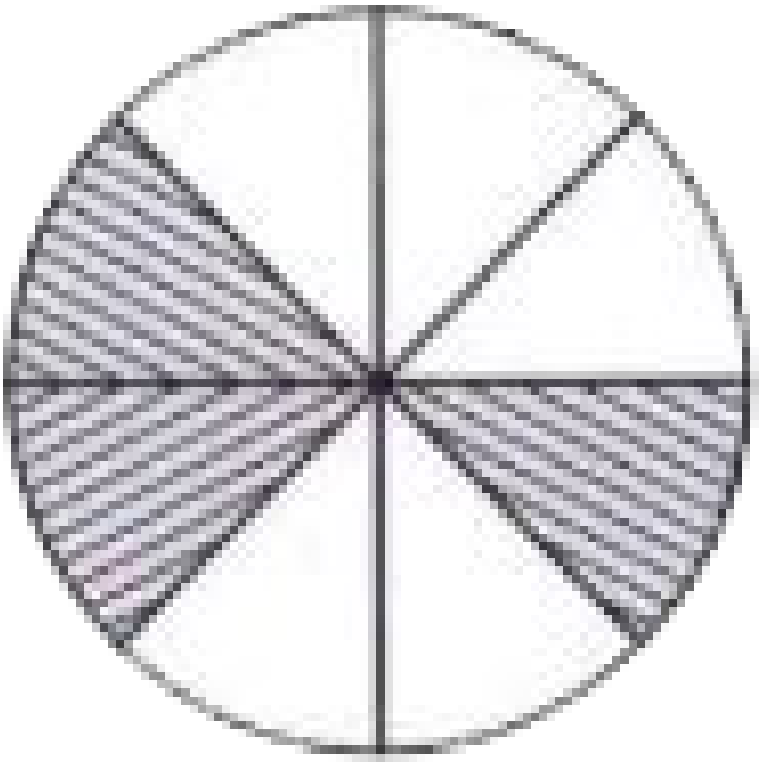
27. Find the probability of selecting shaded portion :



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28. The production of oil (in lakh tonnes) in some of the refineries in India during 2008 is given below :

Refinery	Production of oil (in lakh tonnes)
Barauni	30
Koyali	70
Mathura	40
Mumbai	45
Digboi	25

Construct a bar graph to represent the above data

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29. The daily maximum and minimum temperature of a city during one week in the month a April is given below. Construct a double bar graph using this data

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Maximum Temperature (°C)	17.2	15.8	28.2	16.5	25.2	29.2	26.3
Minimum Temperature (°C)	12.8	8.8	20.9	10.3	19.4	21.3	19.3

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30. Pocket money received by 7 students is given below

Rs 24, Rs 22, Rs 30, Rs 28, Rs 32, Rs 26, Rs 34

Find the range, mean and median of the data

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Ncert Section Exercise 3 1

1. Find the range of heights of any ten students of your class

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2. Organise the following marks in a class assessment , in a tabular form

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

Which number is the highest ?

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3. Organise the following marks in a class assessment , in a tabular form

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

Which number is the lowest ?

Watch Video Solution

4. Organise the following marks in a class assessment , in a tabular form

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

What is the range of the data ?

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5. Organise the following marks in a class assessment , in a tabular form

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

Find the arithmetic mean

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6. Find the mean of the first five whole numbers

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7. A cricketer scores the following runs is eight innings :

58 76, 40, 35, 46, 45, 0, 100

Find the mean score

Watch Video Solution

8. Following table shows the points of each player scored in four games

Player	Game 1	Game 2	Game 3	Game 4
A	14	16	10	10
B	0	8	6	4
C	8	11	Did not play	13

Now answer the following questions

Find the mean to determine A' s average number of points scored per game

Watch Video Solution

9. Following table shows the points of each player scored in four games

Player	Game 1	Game 2	Game 3	Game 4
A	14	16	10	10
B	0	8	6	4
C	8	11	Did not play	13

Now answer the following questions

To find the mean number of points per game for C, would you divide the total points by 3 or by 4 ? why ?

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10. Following table shows the points of each player scored in four games

Player	Game 1	Game 2	Game 3	Game 4
A	14	16	10	10
B	0	8	6	4
C	8	11	Did not play	13

Now answer the following questions

B played in all the four games. How would your find the mean ?

Watch Video Solution

11. Following table shows the points of each player scored in four games

Player	Game 1	Game 2	Game 3	Game 4
A	14	16	10	10
B	0	8	6	4
C	8	11	Did not play	13

Now answer the following questions

Who is the best performer ?

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12. The marks (out of 100) obtained by a group of students in Science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75 . Find the

Highest and the lowest marks obtained by the students

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13. The marks (out of 100) obtained by a group of students in Science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75 . Find the

Range of the marks obtained

Watch Video Solution

14. The marks (out of 100) obtained by a group of students in Science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75 . Find the

Mean marks obtained by the group

Watch Video Solution

15. The enrolment in a school during six consecutive years was as follows: 1555, 1670, 1750, 2013, 2540, 2820 Find the mean enrolment of the school for this period

Watch Video Solution

16. The rainfall (in mm) in a city of 7 days of a certain week was recorded as follows :

Day	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Rainfall (in mm)	0.0	12.2	2.1	0.0	20.5	5.5	1.0

Find the range of the rainfall in the above data

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17. The rainfall (in mm) in a city of 7 days of a certain week was recorded as follows :

Day	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Rainfall (in mm)	0.0	12.2	2.1	0.0	20.5	5.5	1.0

Find the mean rainfall for the week

View Text Solution

18. The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows: (i) Find the range of the rainfall in the above data. (ii) Find the mean rainfall for the week. (iii) On how many days was the rainfall less than the mean rainfal

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19. The heights of 10 girls were measured in cm and the results are as follows: 135, 150, 139, 128, 151, 132, 146, 149, 143, 141. (i) What is the height of the tallest girl? (ii) What is the height of the shortest girl? (iii) What is the range of the da

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20. The heights of 10 girls were measured in cm and the results are as follows: 135, 150, 139, 128, 151, 132, 146, 149, 143, 141. (i) What is the height of the tallest girl? (ii) What is the height of the shortest girl? (iii) What is the range of the da

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21. The heights of 10 girls were measured in cm and the results are as follows: 135, 150, 139, 128, 151, 132, 146, 149, 143, 141. (i) What is the height of the tallest girl? (ii) What is the height of the shortest girl? (iii) What is the range of the da

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22. The heights of 10 girls were measured in cm and the results are as follows: 135, 150, 139, 128, 151, 132, 146, 149, 143, 141. (i) What is the height of the tallest girl? (ii) What is the height of the shortest girl? (iii) What is the range of the da

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23. The heights of 10 girls were measured in cm and the results are as follows: 135, 150, 139, 128, 151, 132, 146, 149, 143, 141. (i) What is the height

of the tallest girl? (ii) What is the height of the shortest girl? (iii) What is the range of the da

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Ncert Section Exercise 3 2

1. The scores in mathematics test (out of 25) of 15 students is as follows: 19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20 Find the mode and median of this data. Are they same?

Watch Video Solution

2. The runs scored in a cricket match by 11 players are as follows :

6, 15, 120, 50, 100, 80, 10, 15, 18, 10, 15

Find the mean, mode and median of this data. Are the three same ?

Watch Video Solution

3. The weights (in kg) of 15 students of a class are

38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47,

Find the mode and median of this data

Watch Video Solution

4. The weights (in kg) of 15 students of a class are

38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47,

Is there more than one mode ?

Watch Video Solution

5. Find the mode and median of the data : 13, 16, 12, 14, 19, 12, 14, 13, 14

Watch Video Solution

6. Tell whether the statement is true or false :

The mode is always one of the numbers in a data

Watch Video Solution

7. Tell whether the statement is true or false :

The mean is one of the numbers in a data

Watch Video Solution

8. Tell whether the statement is true or false :

The mean is always one of the numbers in a data

Watch Video Solution

9. Tell whether the statement is true or false :

The data 6, 4, 3, 8, 9, 12, 13, 9, has mean 9

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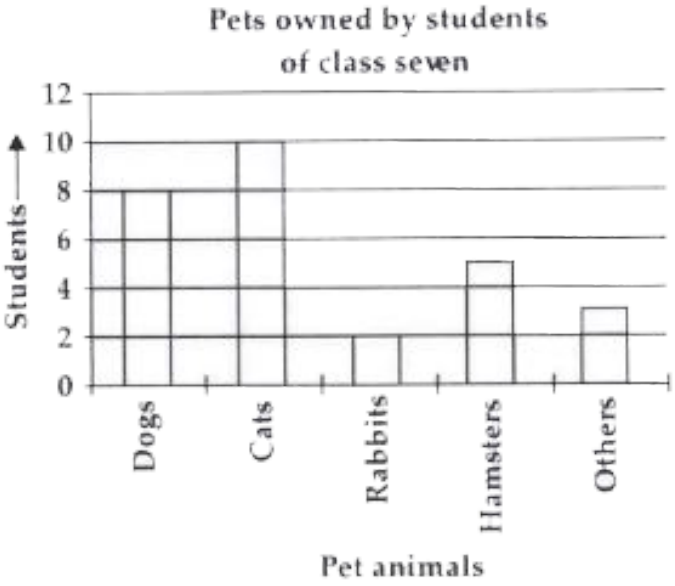
Ncert Section Exercise 3 3

1. Use the bar graph to answer the following questions

Which is the most popular pet ?



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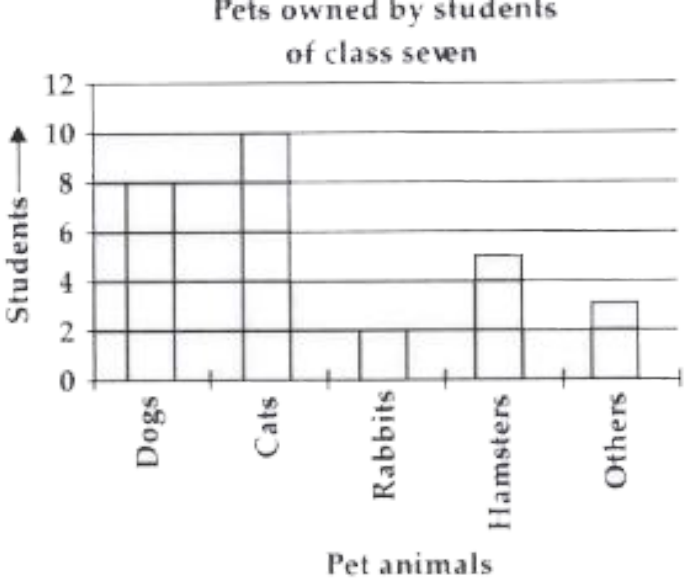
2. Use the bar graph to answer the following questions

How many students have dog as a pet ?



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3. Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions

In which year lowest books were sold ?

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4. Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions

In which year highest books were sold ?

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5. Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions

In which years were fewer than 200 books sold ?

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6. Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions

Can you give an appropriate name to the bar graph shown above ?

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7. Number of children in six different classes are given below.

Class	Number of Children
Fifth	135
Sixth	120
Seventh	95
Eighth	100
Ninth	90
Tenth	80

Which class have the second highest strength ?

Watch Video Solution

8. Answer the following questions

Which class has the maximum number of children ? And the minimum ?

Class	Number of Children
Fifth	135
Sixth	120
Seventh	95
Eighth	100
Ninth	90
Tenth	80

Watch Video Solution

9. Answer the following questions

Find the ratio of students of class sixth to the students of class eight

Class	Number of Children
Fifth	135
Sixth	120
Seventh	95
Eighth	100
Ninth	90
Tenth	80

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10. The performance of a student in 1^{st} Term and 2^{nd} Term is given.

Subject	English	Hindi	Maths	Science	S. Science
1st Term (M.M. 100)	67	72	88	81	73
2nd Term (M.M. 100)	70	65	95	85	75

In which subject, has the child improved his performance the most ?

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11. The performance of a student in 1^{st} Term and 2^{nd} Term is given.

Subject	English	Hindi	Maths	Science	S. Science
1st Term (M.M. 100)	67	72	88	81	73
2nd Term (M.M. 100)	70	65	95	85	75

In which subject is the improvement the least ?

Watch Video Solution

12. The performance of a student in 1^{st} Term and 2^{nd} Term is given.

Subject	English	Hindi	Maths	Science	S. Science
1st Term (M.M. 100)	67	72	88	81	73
2nd Term (M.M. 100)	70	65	95	85	75

Has the performance gone down in any subject

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13. Consider this data collected from a survey of a colony

Favourite Sport	Cricket	Basket Ball	Swimming	Hockey	Athletics
Watching	1240	470	510	430	250
Participating	620	320	320	250	105

Draw a double bar graph choosing an apropriate scale

What do you infer from the bar graph

Watch Video Solution

14. Consider this data collected from a survey of a colony

Favourite Sport	Cricket	Basket Ball	Swimming	Hockey	Athletics
Watching	1240	470	510	430	250
Participating	620	320	320	250	105

Which sport is most popular ?

Watch Video Solution

15. Consider this data collected from a survey of a colony

Favourite Sport	Cricket	Basket Ball	Swimming	Hockey	Athletics
Watching	1240	470	510	430	250
Participating	620	320	320	250	105

Which is more preferred, watching or participating in sports ?

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16. Take the data giving the minimum and the maximum temperature of various cities given in the table.

Temperatures of Cities as on 20.6.2006		
City	Max.	Min.
Ahmedabad	38°C	29°C
Amritsar	37°C	26°C
Bangalore	28°C	21°C
Chennai	36°C	27°C
Delhi	38°C	28°C
Jaipur	39°C	29°C
Jammu	41°C	26°C
Mumbai	32°C	27°C

Which city has the largest difference in the minimum and maximum temperature on the given date ?

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17. Take the data giving the minimum and the maximum temperature of various cities given in the table.

Temperatures of Cities as on 20.6.2006		
City	Max.	Min.
Ahmedabad	38°C	29°C
Amritsar	37°C	26°C
Bangalore	28°C	21°C
Chennai	36°C	27°C
Delhi	38°C	28°C
Jaipur	39°C	29°C
Jammu	41°C	26°C
Mumbai	32°C	27°C

Which is the hottest city and which is the coldest city ?

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18. Take the data giving the minimum and the maximum temperature of various cities given in the table.

Temperatures of Cities as on 20.6.2006		
City	Max.	Min.
Ahmedabad	38°C	29°C
Amritsar	37°C	26°C
Bangalore	28°C	21°C
Chennai	36°C	27°C
Delhi	38°C	28°C
Jaipur	39°C	29°C
Jammu	41°C	26°C
Mumbai	32°C	27°C

Name two cities where maximum temperature of one was less than the minimum temperature of the other

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19. Take the data giving the minimum and the maximum temperature of various cities given in the table.

Temperatures of Cities as on 20.6.2006		
City	Max.	Min.
Ahmedabad	38°C	29°C
Amritsar	37°C	26°C
Bangalore	28°C	21°C
Chennai	36°C	27°C
Delhi	38°C	28°C
Jaipur	39°C	29°C
Jammu	41°C	26°C
Mumbai	32°C	27°C

Name the city which has the least difference between its minimum and the maximum temperature

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Ncert Section Exercise 3 4

1. Tell whether the following is certain to happen, impossible, can happen but not certain

You are older today than yesterday

Watch Video Solution

2. Tell whether the following is certain to happen, impossible, can happen but not certain

A tossed coin will land heads up

Watch Video Solution

3. Tell whether the following is certain to happen, impossible, can happen but not certain

A die when tossed shall land up with 8 on top

Watch Video Solution

4. Tell whether the following is certain to happen, impossible, can happen but not certain

The next traffic light seen will be green

Watch Video Solution

5. Tell whether the following is certain to happen, impossible, can happen but not certain

Tomorrow will be a cloudy day

Watch Video Solution

6. There are 6 marbles in a box with numbers from 1 to 6 marked on each of them

What is the probability of drawing a marble with number 2?

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7. There are 6 marbles in a box with numbers from 1 to 6 marked on each of them. What is the probability of drawing a marble with number 5?

Watch Video Solution

8. A coin is flipped to decide which team starts the game. What is the probability that your team will start?

Watch Video Solution

Exercise Level 1 M C Q

1. Which of the following represents statistical data ?

A. The names of owners of shops located in a shopping complex

B. A list giving the name of all states of India

C. A list of all European countries and their respective capital cities

D. The volume of rainfall in a certain geographical area recorded every month for 24 consecutive months

Answer:

Watch Video Solution

2. Which measure of central tendency best describes the data of most demanding size of shoe after sale ?

A. Mean

B. Mode

C. Median

D. Range

Answer:

Watch Video Solution

3. The probability of choosing a boy from a class of 34 students, if there are 13 girls is

A. $\frac{21}{34}$

B. $\frac{13}{34}$

C. $\frac{7}{34}$

D. $\frac{15}{34}$

Answer:

Watch Video Solution

4. Runs scored by a batsman in four matches are 27, 83, 64 and 56 . If he scores 75 runs in fifth match , then his average score will

A. Increase by 3 . 5

B. Decrease by 3 . 5

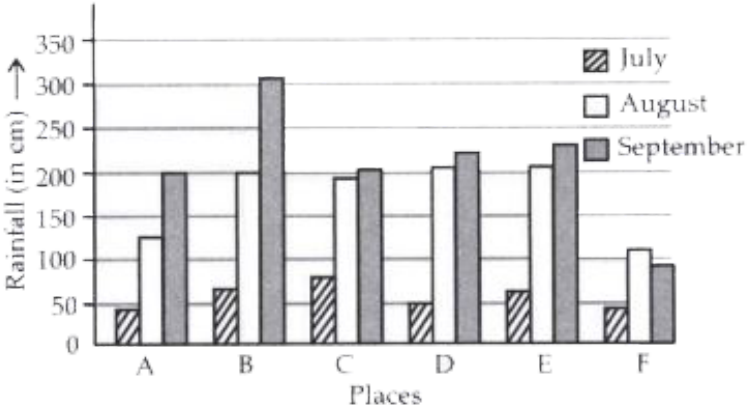
C. Increase by 2

D. Decrease by 2 . 5

Answer:

Watch Video Solution

5. The following bar graph shows the rainfall at selected locations in certain months



Which of the following statements is correct ?

A. July rainfall exceeds August rainfall by 100 cm in each location

B. September rainfall exceeds August rainfall by 50 cm in each location

C. July rainfall is lower August rainfall in each location

D. None of these

Answer:

Watch Video Solution

6. A variate takes 13 values which are arranged in ascending order of their magnitudes. It is found that 5^{th}, 7^{th} and 8^{th} observations are 4, 6 and 9 respectively. What is the median of the distribution

A. 4

B. 6

C. 9

D. Can ' be determined

Answer:

Watch Video Solution

7. From a series of 50 observations, an observation with the value of 45 is dropped, but the mean remains the same . What was the mean of 50 observations ?

A. 50

B. 49

C. 45

D. 40

Answer:

Watch Video Solution

8. The mean of he marks in Statistics of 100 students in a class was 72 . The mean of marks for boys was 75, while their number was 70. The mean of marks of girls in the class was

A. 35

B. 65

C. 68

D. 86

Answer:

Watch Video Solution

9. The numbers 4 and 9 have frequencies x and (x - 1) respectively. If their arithmetic mean is 6, then x is equal to :

A. 2

B. 3

C. 4

D. 5

Answer:

Watch Video Solution

10. If the median of $\frac{x}{5}, x, \frac{x}{4}, \frac{x}{2}$ and $\frac{x}{3}$ (where $x > 0$) is 8, then the value of $\frac{x}{2}$ would be

A. 24

B. 32

C. 12

D. 16

Answer:

Watch Video Solution

11. The mean of 10 numbers is 7 . If each number is multiplied by 1 then the mean of new set of numbers is

A. 82

B. 7

C. 8

D. 4

Answer:

Watch Video Solution

12. The probability of the event "a head is obtained on tossing a coin" is

A. Unlikely

B. Even chance

C. Certain

D. Impossible

Answer:

Watch Video Solution

13. In a class , there are 24 boys and 12 girls. If one child is absent then the probability that it is a girl is

A. $\frac{5}{12}$

B. $\frac{7}{12}$

C. $\frac{5}{7}$

D. $\frac{1}{3}$

Answer:

Watch Video Solution

14. A box contains 10 balls which are numbered 0 to 9. If one ball is drawn unseen, the probability of drawing a number greater than 6 is

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

B. $\frac{1}{8}$

C. $\frac{1}{4}$

D. $\frac{3}{10}$

Answer:

Watch Video Solution

15. A bag contains red, white and blue pencils . The probability of selecting a red pencil is $\frac{2}{13}$ and that of selecting a blue pencil is $\frac{4}{13}$. The probability of selecting a white pencil is

A. $\frac{6}{13}$

B. $\frac{7}{13}$

C. $\frac{3}{5}$

D. $\frac{2}{5}$

Answer:

Watch Video Solution

16. A latter is chosen at random from the word 'MATHEMATICS' .The probability that it is a vowel is

A. $\frac{3}{11}$

B. $\frac{6}{11}$

C. $\frac{4}{11}$

D. $\frac{7}{11}$

Answer:

Watch Video Solution

17. A box contains 50 coloured balls, What is the total number of white balls in the box if the probability of selecting an white ball is 0.4 ?

A. 20

B. 15

C. 10

D. 40

Answer: A

Watch Video Solution

18. Garima, spins a spinner that is split into 8 equal sections. The sections are labelled 1, 3, 2, 1, 2, 2, 3, 1, . What is the probability that the spinner will land on the number 3

A. $\frac{1}{8}$

B. $\frac{1}{2}$

C. $\frac{1}{4}$

D. $\frac{3}{8}$

Answer:

Watch Video Solution

19. This frequency table shows the results of a small class quiz . If a student is selected at random, the probability that he or she scored 2, 4,

or 5 is

Marks	Frequency
1	4
2	3
3	2
4	6
5	5

A. $\frac{3}{20}$

B. $\frac{1}{4}$

C. $\frac{7}{10}$

D. $\frac{9}{20}$

Answer:

Watch Video Solution

20. The king, queen and jack of hearts are removed from a deck of 52 playing cards and well shuffled. One card is selected from the remaining cards. The probability of drawing a '10' of hearts is

A. $\frac{10}{49}$

B. $\frac{13}{49}$

C. $\frac{3}{49}$

D. $\frac{1}{49}$

Answer:

Watch Video Solution

21. What is the probability of getting a black king from a pack of 52 cards ?

A. $\frac{1}{13}$

B. $\frac{1}{26}$

C. $\frac{1}{4}$

D. $\frac{1}{2}$

Answer:

Watch Video Solution

22. The data given below shows the time (in minutes) taken by nine students to go school from their homes. Which statement about the data is true ?

11, 6, 22, 7, 11, 6, 15, 12, 11

A. The median is 11.

B. The mode is 11

C. The range is 16

D. All of these

Answer:

Watch Video Solution

23. Soni has digit cards 1, 4 and 7 . She makes 2 - digit numbers using each card only once The probability that a 2 - digit number chosen at random is divisible by 2 is

A. $\frac{1}{3}$

B. $\frac{2}{3}$

C. 0

D. $\frac{1}{2}$

Answer: A

Watch Video Solution

24. Twelve sided dice is used in adventure games . They are marked with the numbers 1 to 12 . The score is the upper most face. If this type of die is thrown, what is the probability that the score is a factor of 12

A. $\frac{1}{2}$

B. $\frac{3}{4}$

C. $\frac{1}{6}$

D. $\frac{1}{4}$

Answer: A

Watch Video Solution

25. A card is drawn from a pack of 52 cards. What is the probability that it is a seven?

A. $\frac{3}{52}$

B. $\frac{1}{4}$

C. $\frac{1}{26}$

D. $\frac{1}{13}$

Answer:

Watch Video Solution

26. The mean of the first ten natural numbers is

A. 5

B. $5.\overline{5}$

C. 6

D. $6.\overline{5}$

Answer:

Watch Video Solution

27. The probability of getting a number less than or equal to 6 when a die is rolled is

A. 0

B. 6

C. $\frac{1}{6}$

D. 1

Answer: D

Watch Video Solution

28. The mean of 5 observations is 14. If one of the observations is wrongly read as 10 for 30, then find out the correct mean

A. 14

B. 20

C. 18

D. 16

Answer:

Watch Video Solution

29. The heights of a group of people (in cm) are 121, 118, 115, 130, 100, 99, 84, 132, 88, 80, 98. The range of this data is

A. 132

B. 80

C. 100

D. 52

Answer:

Watch Video Solution

30. The mean of 12, 10, x, 20 and 18, is 17. Find x

A. 12

B. 25

C. 18

D. 15

Answer:

Watch Video Solution

31. The mean of 5 observations is 3 and if one more observation is added, the mean becomes 3 . 5. Find out the value of new observation .

A. 5

B. 6

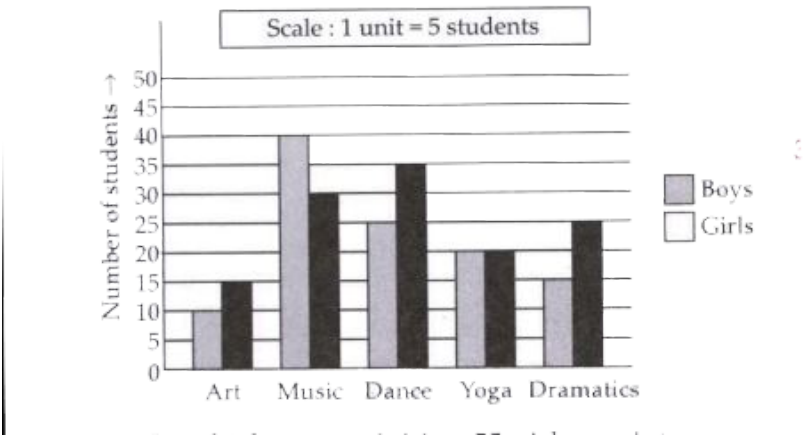
C. 4

D. 3

Answer:

Watch Video Solution

32. The bar graph given below shows the interest of boys and girls in different activities



In which two activities, 55 girls are interested together ?

A. Art and music

B. Music and dance

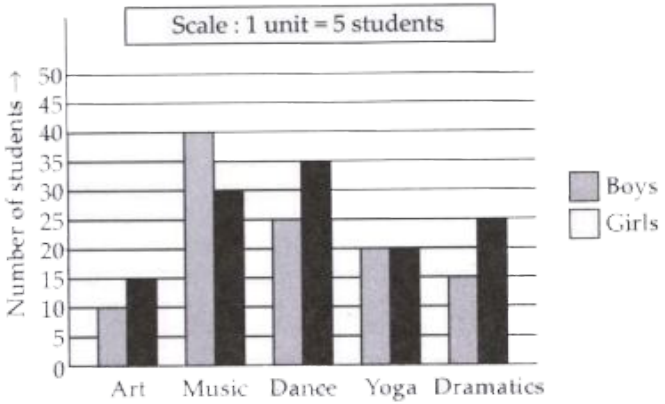
C. Dance and yoga

D. Yoga and dramatics

Answer:

Watch Video Solution

33. The bar graph given below shows the interest of boys and girls in different activities



How many less boys are interested in yoga, dance and art altogether than girls

A. 15

B. 10

C. 25

D. 20

Answer:

Watch Video Solution

34. For what value of x the mode of the following data is 15 ? 15, 16, 17, 13, 12, 15, 16, 15, 16, x + 9

A. 6

B. 5

C. 4

D. 7

Answer:

Watch Video Solution

35. A coin is tossed 20 times. The number of times head occurred and tail occurred is 12 and 8 respectively . What is the probability that a tail will turn up on the coin ?

A. $\frac{3}{5}$

B. $\frac{2}{5}$

C. $\frac{8}{21}$

D. $\frac{4}{7}$

Answer:

Watch Video Solution

Exercise Level 2 M C Q

1. A person made 165 telephone calls in the month of May in a year . It was Friday on 1st May of the year. The average of telephone calls on Sundays of the month was 7. What was the average of the telephone calls per day on the rest days of the month

A. $\frac{165}{31}$

B. 5

C. 7

D. $\frac{145}{27}$

Answer:

Watch Video Solution

2. In the data given below, the observation p is missing

2 . 5 , 1 . 5, p, 1. 7, 2 . 5, 1. 3, 3 . 5

If the mean is 2 . 5 then the missing observation p will be

A. 0.5

B. 1.5

C. 3.5

D. 4.5

Answer:

Watch Video Solution

3. A batsman scores 80 runs in his sixth innings and thus increases his average by 5. What is his average after six innings ?

A. 66

B. 55

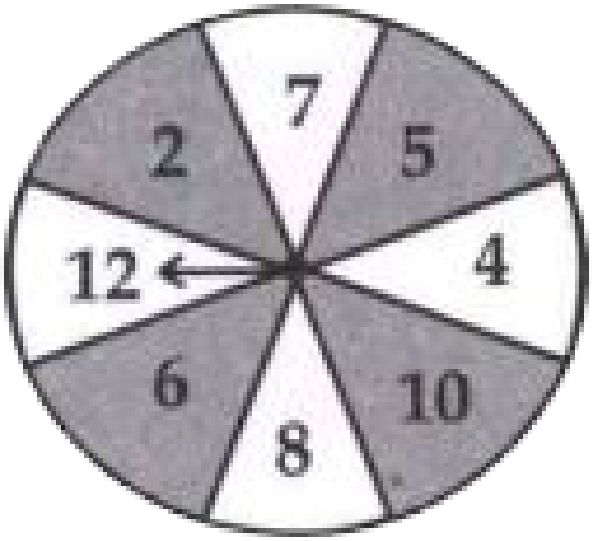
C. 56

D. 65

Answer:

Watch Video Solution

4. You spin the spinner at right, which is divided into equal parts. Which of the following statements is correct ?



A. Probability of pointer lads on the shaded part is 0 . 5

B. Probability of pointer lands on an even number is 0 . 75

C. Probability os pointer lands on a prime number is 0.375

D. All of these

Answer:

Watch Video Solution

5. The probability that Vikram is late for school in the morning is 0 . 1. How many times would you expect Vikram to be on time in 20 mornings ?

A. 2

B. 9

C. 18

D. 6

Answer:

Watch Video Solution

6. Khilona earned scores of 97, 73 and 88 respectively in her first three examinations. If she scored 80 in the fourth examination, then her average score will be

A. increased by 1

B. increased by 1 . 5

C. decreased by 1

D. decreased by 1 . 5

Answer:

Watch Video Solution

7. The mean of 11 numbers is 7 . If each number is multiplied by 6 , then the mean of new set of numbers is

A. 82

B. 42

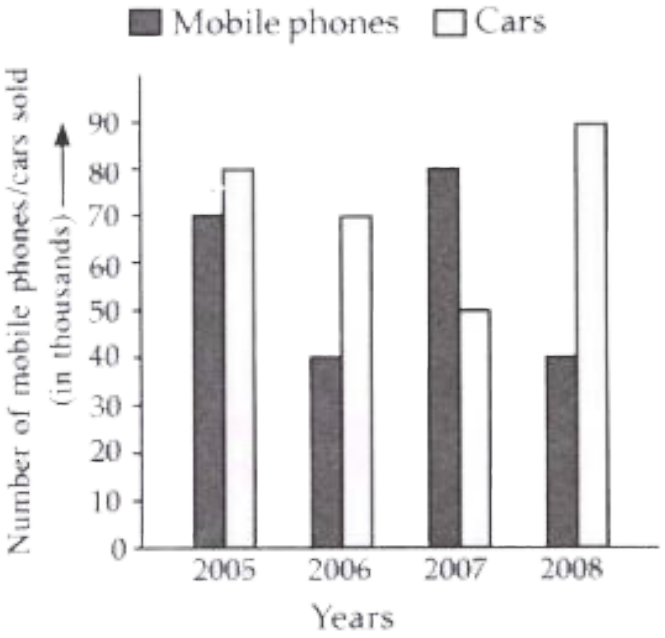
C. 78

D. 84

Answer:

Watch Video Solution

8. The given double bar graph shows the sale of mobile phone and cars from 2005 to 2008



(i) Find the ratio of the tatal number of mobile phones sold in 2006 and 2008 to the total number of cars sold in 2005 and 2007

(ii) What is the average number of cars sold from 2005 to 2008

A. (i) $8:13$ (ii) 72500

B. (i) $13:16$ (ii) 72500

C. (i) $8:13$ (ii) 97000

D. $\begin{matrix} (\mathrm{i}) & (\mathrm{ii}) \\ 16:17 & 89000 \end{matrix}$

Answer:

Watch Video Solution

9. What is the probability of drawing a card numbered six from a deck of 52 playing cards ?

Watch Video Solution

10. Which of the following is true ?

A. The median of the data 10, 9, 13, 12, 5, 6 is 9 . 5

B. Range of data 13, 12, 14, 13, 15, 16, 18, 39, 41, 23, 27, is 27

C. The mean of the data 7, 8, 9, 11, 15, is 12

D. The mode of data is the highest value in data

Answer:

Watch Video Solution

11. Average of the marks in maths of 40 students in a class was 74 . The mean of marks for boys was 72, while their number was 21 . The mean of marks of girls in the class was

A. 35.8

B. 76.2

C. 68.7

D. 86.5

Answer:

Watch Video Solution

12. One of 26 letter keys on a type writer is pressed. What is the probability that the key prints a latter other than a vowel ?

A. $\frac{5}{26}$

B. $\frac{1}{26}$

C. $\frac{21}{26}$

D. $\frac{23}{26}$

Answer:

Watch Video Solution

13. Find the mean of integers lying between - 5 and 5

A. 0.6

B. 0

C. 0.57

D. 0.5

Answer:

Watch Video Solution

14. In a bag, there are seven cards numbered 1 to 7 . A card is picked at random. What is the probability of picking not a prime number card ?

A. $\frac{4}{7}$

B. $\frac{3}{7}$

C. $\frac{5}{7}$

D. $\frac{2}{7}$

Answer:

Watch Video Solution

15. The average of five numbers is 35 . If sum of three of these numbers is 37 , what is the mean of the other two numbers ?

A. 32

B. 67

C. 69

D. 63

Answer:

Watch Video Solution

Exercise Level 2 Match The Following

1. Match the following :

List-I	List-II
(P) Value which occurs most often in a set of data is called	(1) Frequency
(Q) The middle value when the set of data is arranged in ascending or descending order is called	(2) Range
(R) Difference between the highest and lowest values of a set of data is called	(3) Mode
(S) The number of times a particular observation occurs is called	(4) Median

A. P-3, Q-4, R-2, S-1

B. P-3, Q-1, R-4, S-2

C. P-2, Q-3, R-4, S-1

D. P-4, Q-1, R-2, S-3

Answer:

Watch Video Solution

2. When a die is rolled, then match the following

List-I	List-II
(P) Probability of getting a prime number is	(1) 2/3
(Q) Probability of getting a number less than smallest prime number is	(2) 1/3
(R) Probability of getting an odd prime number is	(3) 1/6
(S) Probability of getting a factor of 6 is	(4) 1/2

A. P-1, Q-2, R-3, S-4

B. P-3, Q-1, R-4, S-2

C. P-14, Q-3, R-2, S-1

D. P-4, Q-1, R-2, S-3

Answer:

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Exercise Level 2 Assertion Reason Type

1. Assertion : Mode of the data 148, 145, 149, 151, 146, 148, 147, 149, 148, 151, and 148 is 148.

Reason : The most frequently occurring value in the data is called the mode of the data

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If assertion is false but reason is true

Answer:

Watch Video Solution

2. Assertion : The median of the data 105, 103, 102, 107, 120, 124, 111 and 124 is 109

Reason : When the number of observations (n) is odd, then the median is the value of the $\left(\frac{n+1}{2}\right)^{th}$ observation. If the number of observations (n) is even , then the median is the mean of the $\left(\frac{n}{2}\right)^{th}$ observation and the $\left(\frac{n}{2}+1\right)^{th}$ observation

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If assertion is false but reason is true

Answer:

Watch Video Solution

3. Assertion : In there are 20 stamps in a box, which are marked with first 20 natural numbers, then the probability of getting stamp having a prime number is $\frac{2}{5}$

Reason : Probability of getting an event

$$= \frac{\text{Total number of outcomes}}{\text{Number of favourable outcomes}}$$

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If assertion is false but reason is true

Answer:

Watch Video Solution

4. Assertion : The range of the data 114, 115, 116, 118, 119, 125, 130, 141, 126, 116, 113, 118, 120, and 126, is 100

Reason : The difference between the highest and the lowest value of the data is called range

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If assertion is false but reason is true

Answer:

Watch Video Solution

5. The average temperature durung the whole year is:

Temperature (in °C)	Jan. 20	Feb. 32	Mar. 36	April 38	May 42	June 35
	July 32	Aug. 22	Sep. 30	Oct. 28	Nov. 25	Dec. 20

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Exercise Level 2 Comprehension Type

1. Number of students from various school playing various games is given in following table

Games	Schools				
	A	B	C	D	E
Football	125	250	100	175	250
Basketball	175	200	195	245	225
Cricket	250	200	225	215	200
Tennis	240	210	200	130	165
Badminton	75	125	55	45	100

What is the difference between the average number of students playing

cricket from all school and the average number of students playing tennis from all schools ?

A. 31

B. 26

C. 29

D. 33

Answer:

Watch Video Solution

2. Number of students from various school playing various games is given in following table

Games	Schools				
	A	B	C	D	E
Football	125	250	100	175	250
Basketball	175	200	195	245	225
Cricket	250	200	225	215	200
Tennis	240	210	200	130	165
Badminton	75	125	55	45	100

The number of students playing football from school D is what per cent of the total number of students playing all the given games from the school D ? (Round off to 2 digits after decimal)

A. 20.61%

B. 21.60%

C. 22.60%

D. 20.59%

Answer:

Watch Video Solution

3. When a fair die is rolled once, then

What is probability of getting an even prime number ?

A. $\frac{1}{3}$

B. $\frac{2}{3}$

C. $\frac{1}{6}$

D. $\frac{5}{6}$

Answer:

Watch Video Solution

4. A die is thrwon at randow. What is the probability of getting an odd number.

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{2}{3}$

D. $\frac{1}{6}$

Answer:

Watch Video Solution

5. A die is rolled. What is the probability of getting a multiple of 4 ?

A. $\frac{1}{6}$

B. $\frac{5}{6}$

C. $\frac{2}{3}$

D. $\frac{1}{3}$

Answer:

Watch Video Solution

Exercise Level 2 Subjective Problems Very Shor Answer Type

1. Find the mean of 4, 6, 7, 9 and 4.

Watch Video Solution

2. When a coin is flipped once, what is the probability of getting HEAD ?

Watch Video Solution

3. Bar graph

Watch Video Solution

4. The mode of the data 20, 23, 22, 23, 22, 20, x, 21 is 22. Find the value of x.

Watch Video Solution

5. If the mean of 4, x, and y is 6, then find the mean of x, y, and 10.

Watch Video Solution

6. If the mean of 2,3, x ,7 ,8 is x, then find the value of x .

Watch Video Solution

7. Find the range of the data : 14, 15, 16, 18, 19, 25, 30, 41, 26, 16, 13, 18, 20 and 26.

Watch Video Solution

8. Find the mode of the data 2, 4, 6, 4, 6, 7, 6, 7 and 8.

Watch Video Solution

9. Find the mode of the data 7, 8, 9, 9, 10, 7, 11, 10, 7, 6.

Watch Video Solution

10. Find the mean of first five prime numbers

Watch Video Solution

Exercise Level 2 Subjective Problems Shor Answer Type

1. Find the median of the data 9, 12, 11, 10, 8, 9

Watch Video Solution

2. The marks obtained by a student in examinations are given below :

80, 72, 84, 79, 90

find the average marks of the student

Watch Video Solution

3. The heights (in cm) of 9 students of a class are as follows: 155, 160, 145, 149, 150, 147, 152, 144, 148 Find the median of this data.

Watch Video Solution

4. The mean of 4 numbers is 6 and the mean of other 6 numbers is 9. Find the mean of all the numbers.

Watch Video Solution

5. The mean height of a group of 30 students is 150 cm. If a 150 cm tall student is included in the group, then find the mean heigh of the new group.

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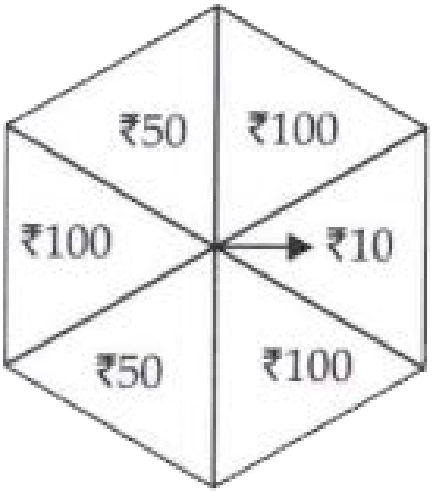
6. A bag contains 4 red, 6 blue and 7 yellow balls. One ball is selected at random. What is the probability that it is blue or yellow ball

Watch Video Solution

7. What is the probability of the given spinner leading on Rs 100



Watch Video Solution

8. One of 26 letter keys on a type writer is pressed . What is the probability that the key prints a letter other than 'a' ?

Watch Video Solution

9. What is the probability of drawing a red face card from a pack of 52 playing cards.

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Exercise Level 2 Subjective Problems Long Answer Type

1. The table given below shows the expenditures on different component of a person. What was the total expenditure of the person?

Component	Expenses (in ₹)
Food	3600
Education	2400
Rent	2100
Clothing	1200
Entertainment	2200

Watch Video Solution

2. The marks (out of 100) obtained by a student in his quarterly examination in various subjects are given below :

Subject	Marks obtained
Telugu	85
Hindi	74
English	68
Maths	90
Science	75
Social Science	50

The total percentage of marks scored by the student is.

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Exercise Level 2 Long Answer Type

1. A card is drawn from a pack of 52 cards. What is the probability that it is an ace ?

Watch Video Solution

2. Find the median of following data set 16, 21, 26, 29, 32

Watch Video Solution

Exercise Level 2 Subjective Problems

1. Find the mean of the given data

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

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2. An unbaised coin is tossed. Find the probability of getting a tail

Watch Video Solution

3. If the data 7, 8 k, 11, 15 is in ascending order and median is 10, then find the value of k

Watch Video Solution

4. The mode of data 1, 3, 12, 10, 8, 4, 5, 4, 3, 2, 1, 4 is $60 \div k$. Find the value of k

Watch Video Solution

5. From a pack of 52 cards the probability of picking up a spade card is

Watch Video Solution

6. Find the sum of digits of range of data :

13, 18, 20, 15, 12, 17, 9, 14, 11 and 16

Watch Video Solution

7. If the mean of observations 14, 5, 4, 8, 2, 3, x is x, then find the value of x

Watch Video Solution

8. If the mean of n observations is 5 and sum of observations is 25, then find n .

Watch Video Solution

9. In a box, there are 16 stamps. Each stamp is marked with distinct numbers from 1 to 16 . If the probability of drawing a stamp marked even number is $\frac{1}{k}$ then find k

Watch Video Solution

10. The range of data 11, 40, 36, 10, 25, 30, 15, 14 is k. find k

Watch Video Solution

Olympiad Hots Corner

1. The mean of three numbers is 40. All the three numbers are different natural numbers. If lowest is 19, what could be highest possible number of remaining two numbers?

A. 81

B. 40

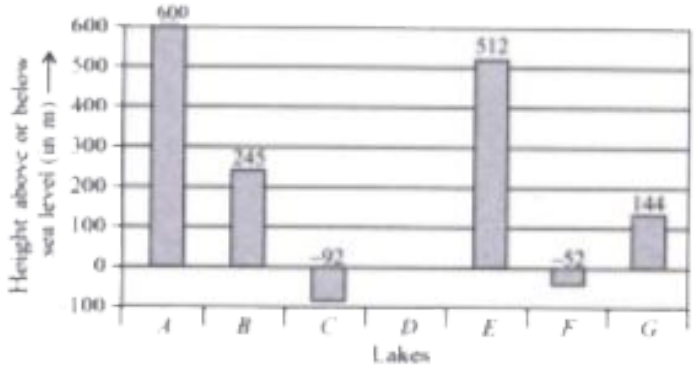
C. 100

D. 71

Answer:

Watch Video Solution

2. The given bar graph shows heights of lakes. Find the difference in elevation for Lake E and Lake C



A. 420 cm

B. 604 cm

C. 504 cm

D. 692 cm

Answer:

Watch Video Solution

3. The number of toffees in 30 gift packs are given as follows :

5, 6, 4, 5, 3, 4, 4, 2, 5, 4, 1, 2, 11, 9, 2, 5, 4, 8, 7, 6, 5, 1, 2, 5, 7, 8,1,9,7,8,

Find the average number of toffees in gift packs

A. 4

B. 5

C. 6

D. 7

Answer:

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4. The letters written on paper slips of the word MATHEMATICS are put in a bag. If one slip is drawn randomly , what is the probability that it bears the letter M ?

A. $3/11$

B. $2/5$

C. $7/9$

D. $2/11$

Answer:

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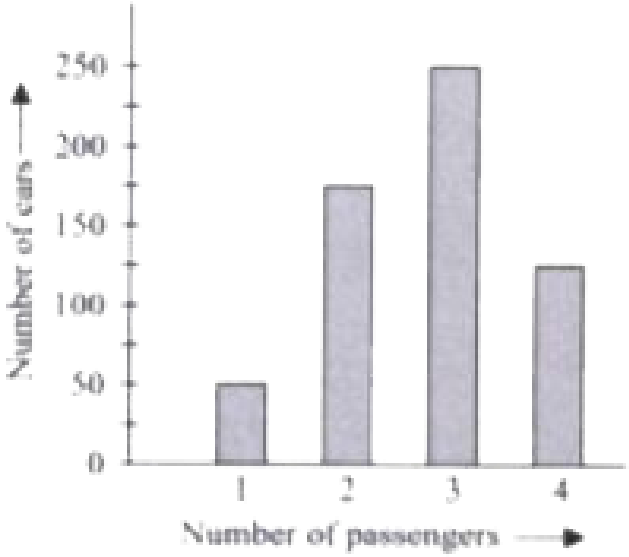
5. The bar graph below shows the number of cars passed through a toll tax



Find the total number of cars passed through the toll tax

A. 500

B. 600

C. 625

D. 700

Answer: B

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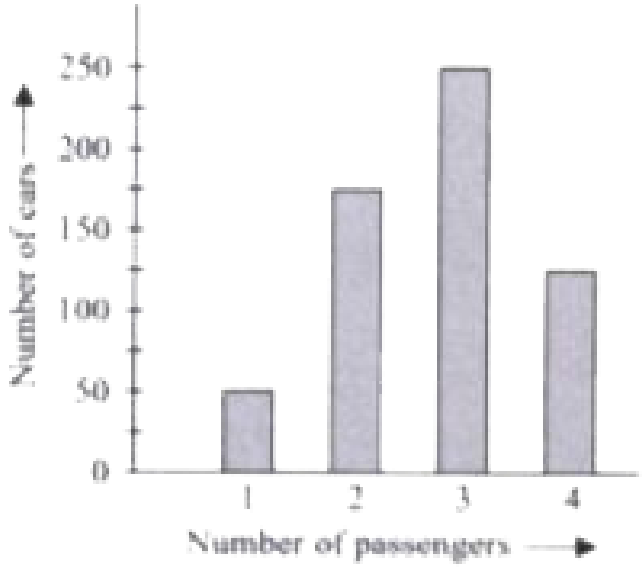
6. The bar graph below shows the number of cars passed through a toll tax



Find the total number of cars passed through the toll tax

A. $91\frac{2}{3}\%$

B. $92\frac{4}{5}\%$

C. $67\frac{1}{3}\%$

D. $47\frac{1}{3}\%$

Answer:

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7. Observe the given data of the height of 15 studetns (in cm

146, 139, 135, 136, 149, 166, 164, 152, 163, 141, 171, 155, 144, 159, 146

Match the lists :

List - I	List - II
(i) Range of the data is	(p) 151 . 0 6 cm
(ii) Mean height of the students is	(q) 146 cm
(iii) Median of the data is	(r) 36 cm
(iv) Mode of the data is	(s) 149 cm

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8. Out of 5 brands of chocolates in a shop, a boy has to purchase the brand which is most liked by children. What measure of central tendency would be most appropriate if the data is provided to him?

A. Mean

B. Mode

C. Median

D. Any of the three

Answer:

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9. The runs scored in a cricket match by 11 players are as follows :

9, 15, 121, 51, 101, 81, 50, 16, 82, 11, 11

Find the mean, mode and median respectively of this data

A. 48, 11, 51

B. 49.81, 11, 81

C. 49.90, 11, 50

D. 49, 81, 11, 50

Answer:

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10. The mean, median, unique mode and range of a collection of eight integers are all equal to 8 . The larges integer that can be an element of this collection is

A. 11

B. 12

C. 13

D. 14

Answer:

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11. The following are the margins of victory in the matches of a football league :

3, 2, 1, 5, 6, 4, 2, 1, 3, 1, 2, 1, 4, 2, 5, 5, 6, 2, 3, 2.

Find the mean of the data .

A. 2

B. 3

C. 2.5

D. 3.5

Answer:

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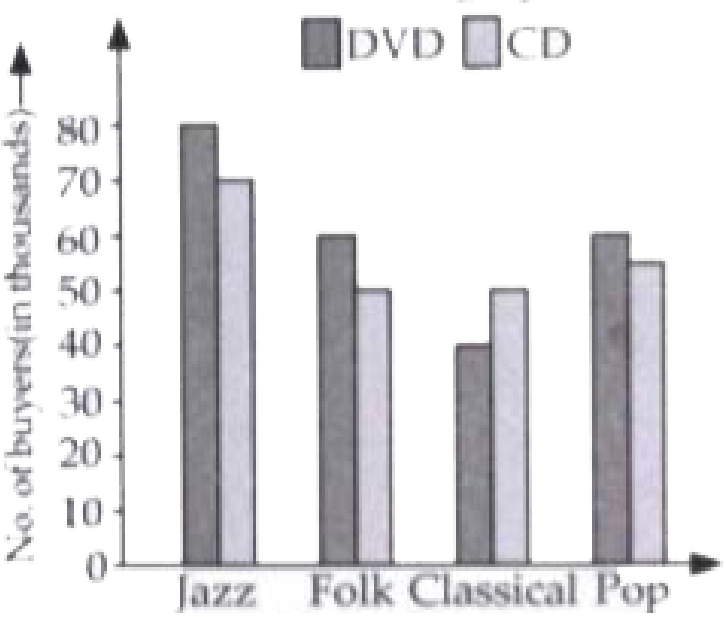
12. The given double bar graph show the buyers DVDs and CDs. Study the graph and answer the following questions .



What is the difference between DVD buyers and CD buyers in Jazz music category ?

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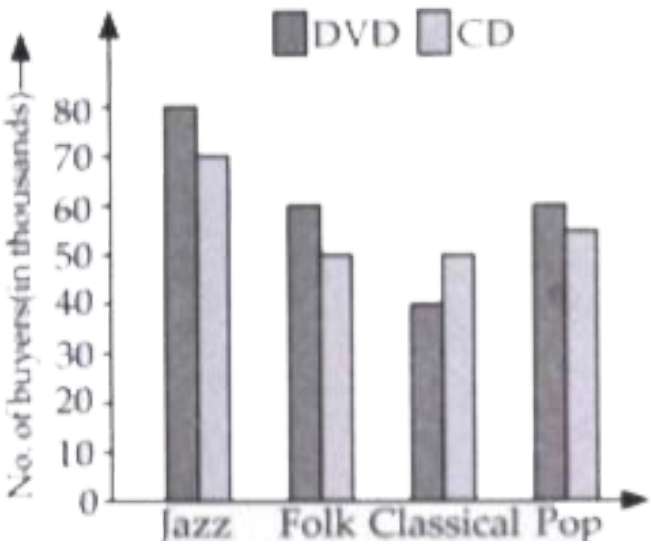
13. The given double bar graph show the buyers DVDs and CDs. Study the graph and answer the following questions .



What is the ratio of Pop music DVD buyers to the Jazz music DVD buyers ?

A. $6:7$

B. $11:16$

C. $11:14$

D. $3:4$

Answer: D

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14. Which of the following statements is incorrect ?

A. Probability of an event can never exceed 1

B. The median of the data 21, 26, 16, 29, 32 is 16

C. The mode of a set of data is the value which occurs most often

D. The median of the data 21, 26, 16, 29, 32 is 26

Answer:

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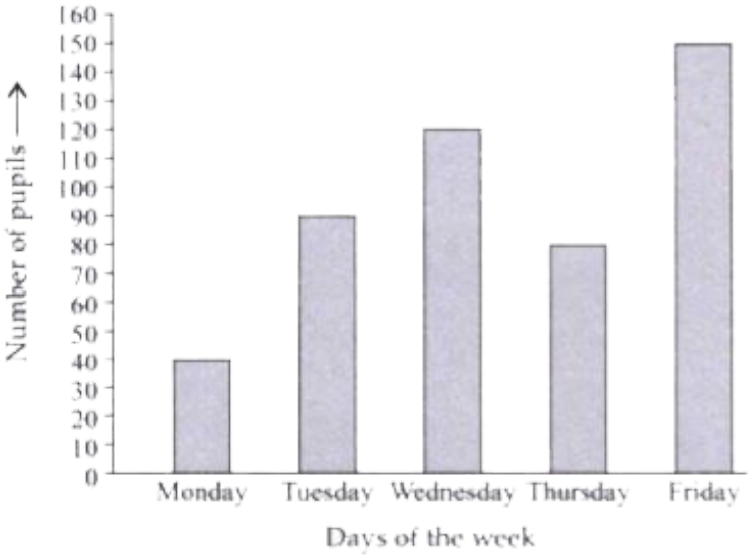
15. the given bar graph shows the numbers of puspils who participated in the fitness test in different days of the week .



what percentage of the total number of puipil had their test on Wednesday ?

A. 30 %

B. 25 %

C. 22.5 %

D. 27.5 %

Answer:

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16. A bag contains 5 blue gems, 8 red gems and 2 green gems. A gem is drawn at random. What is the probability of getting a blue gem ?

A. $\frac{1}{3}$

B. $\frac{2}{3}$

C. $\frac{2}{9}$

D. $\frac{5}{6}$

Answer:

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17. The grades obtained by 30 students of class VII are as follows : $A^+, B^+, A, B, A^+, B^+, B, B, B^+, A, A, A^+, B, B^+A, A^+, B, B, A, A,$ IF a students has been selected at random, then find the probability that he has obtained grade A^+

A. $\frac{7}{10}$

B. $\frac{7}{30}$

C. $\frac{9}{10}$

D. $\frac{3}{10}$

Answer:

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18. Find the sum of the mode and the median of the given data

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

A. 6

B. 5

C. 8

D. 10

Answer: B

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19. In a class, there are 20 girls and 30 boys . The mean weight of 20 girls is 35 kg and mean weight of 30 boys is 60 kg. Find the mean weight of the class

A. 50 kg

B. 65 kg

C. 60 kg

D. 70 kg

Answer:

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20. A survey of the local neighbourhood showed that age of $25\,\%$ of the population was under 12 years and $35\,\%$ of the population was over 60 years . What is the probability that the age of a person selected at random was between 12 years and 60 years

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

B. $\frac{3}{5}$

C. $\frac{1}{5}$

D. $\frac{4}{5}$

Answer:

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