MATHS

BOOKS - PEARSON IIT JEE FOUNDATION

STATISTICS

Example 10 1

1. Given below is the data showing the number of children in a family, in a locality of 15 families.

1,3,5,4,3,2,1,1,3,2,2,1,4,2 and 1. and Draw the frequency table to represent the data.

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Example 10 2

1. The number of different flavours of ice cream sold by ashop keeper during a particular day is given below.

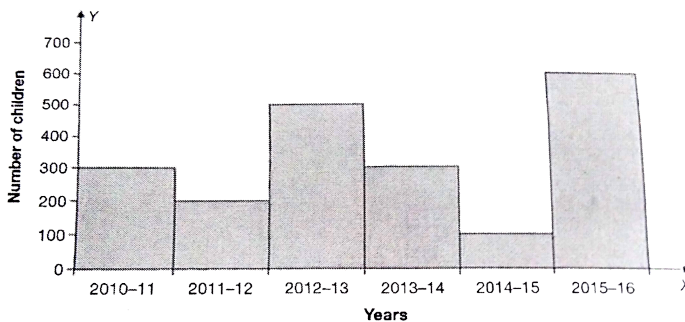| Ice creams	Vanilla	Chocolate	Butterscotch	Strawberry
Number of ice creams	25	17	14	22

Draw a histogram to represent the given date.

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Example 10 3

1. The graph given below shows the number of enrolments of nursery children over a period of 6 years.

Study the graph carefully answer the following questions.

(i) In which year was the enrolment of children highest ?

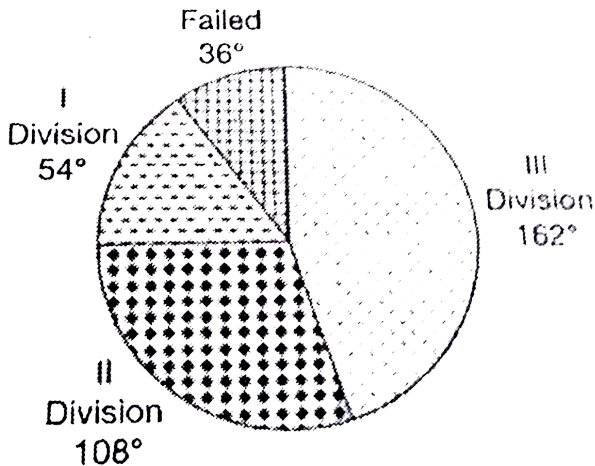(ii) In which two years was enrolment of children equal ?

(iii) What was the increase in the number of children between 2013-14 and 2015-16

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Example 10 4

1. The performance of 720 students in an examination for the academic year 2015-16 is shown in a pie chart. Study the pie chart carefully and answer the questions that follow.

(i) Find the number of students who passed in the first division.

(ii) Find the ratio of number of students who passed to that of failed.

(iii) Find the pecentage of the number of students who failed in the examination.

Example 10 5

1. The following table shows various sports played by students in a school. Draw a pie chart to represent the given data.

Sports	Chess	Cricket	Carroms	Football
Number of students	35	70	42	63

Example 10 6

1. The number of runs given by a bowler in a one-day match in 10 overs is given below.

Draw the line graph for given data.

Overs	1	2	3	4	5	6	7	8	9	10
Number of runs	2	8	5	10	4	7	20	12	7	11

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Test Your Concepts Very Short Answer Type Question

1. In a bar graph, if a bar of height 4 cm represents 28 units, the height of a bar representing 350 units is _____ .

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2. In a pie chart, the sum of the angles of all its com-ponents is _____ .

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3. In a pie chart, the central angle of the component 120, when the total value is 360 is _____ .

4. In a bar graph, a bar of length 3.2 cm represents 96 units, then the number of units represented by a bar graph of length 2.1 cm is _____ .
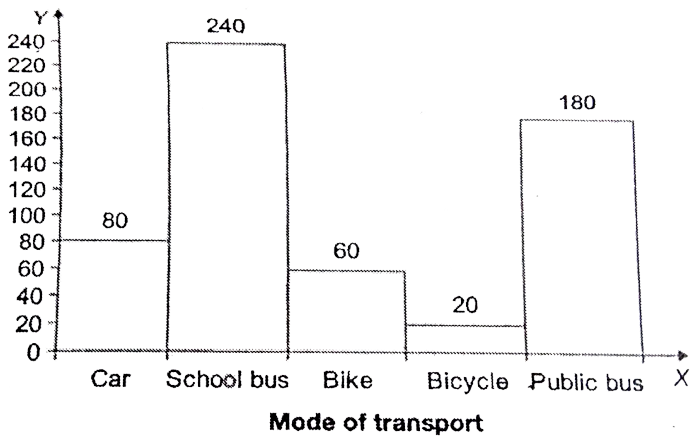
5. In a pie chart, if the central angle of a component is $108°$ and its value is 24, then the total value of all the components of the data is _____ .

6. The histogram shows the number of students using different modes of transport to commute from residence to school.

From the bar graph, answer the following question :

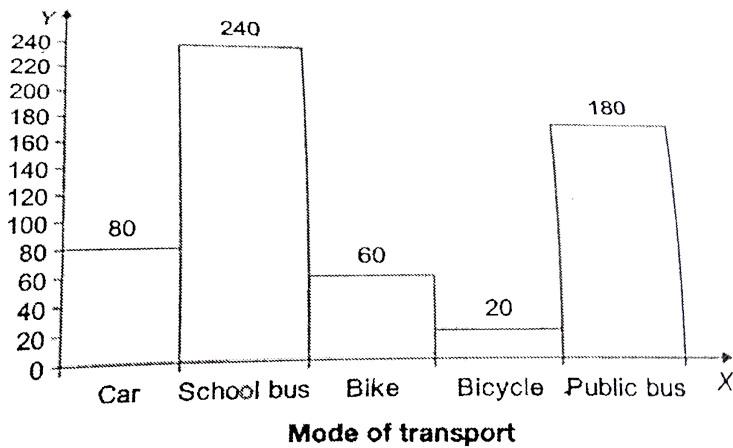What is the total number of pupils who travel by school bus and bike ?

A. 200

B. 320

C. 300

D. 100

Answer: C

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7. The histogram shows the number of students using different modes of transport to commute from residence to school.

From the bar graph, answer the following question :
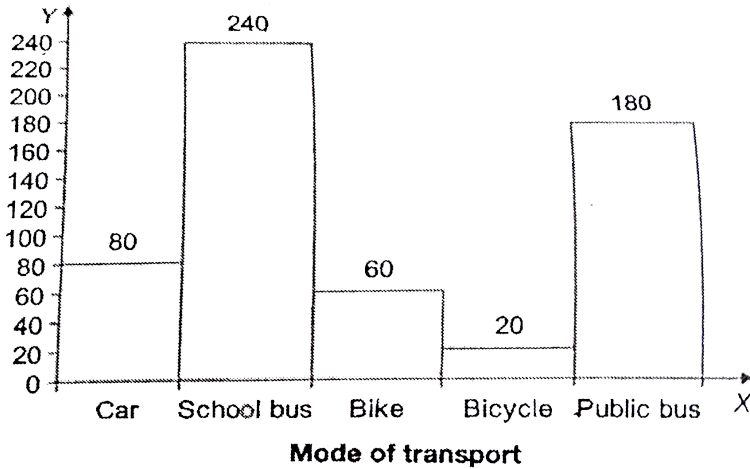
How many more pupils travel by public bus than by car

A. 100

B. 120

C. 160

D. 220

Answer: A

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8. The histogram shows the number of students using different modes of transport to commute from residence to school.

From the bar graph, answer the following question :

The number of pupils who travel by bike is 3 times than that of the number of pupils who travel by _____ .

A. Bicycle

B. Public bus

C. Car

D. School bus

Answer: A

9. The histogram shows the number of students using different modes of transport to commute from residence to school.

to school.

From the bar graph, answer the following question :

If 6 girls travel to school by bicycle, then how many boys travel by bicycle ?

A. 20

B. 16

C. 14

D. 6

Answer: C

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10. The histogram shows the number of students using different modes

of transport to commute from residence to school.

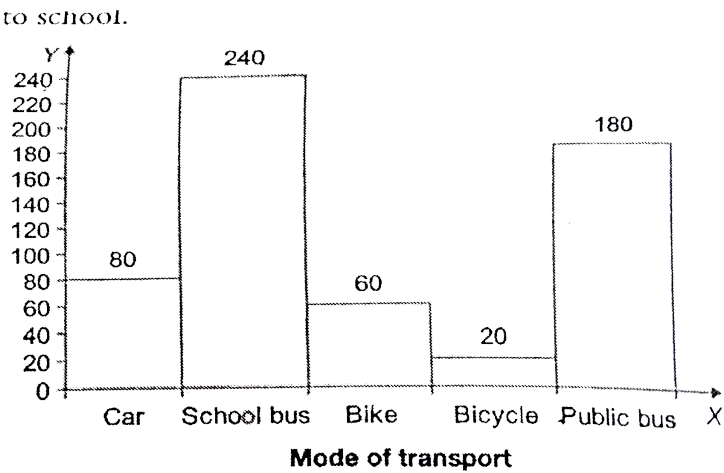From the bar graph, answer the following question :

The ratio of the number of pupits who travel by school bus who travel by

public bus is _____ .

A. $3:4$

B. $1:1$

C. $4:3$

D. $1:2$

Answer: C

11. For a given data, Rithik drew a bar graph and Krithik drew a pie chart. By reading both diagrams, they understood that 3 cm is equivalent to $36°$. Column A consists of the length of four bars out of six of the bar graph. Column B conponents of the pie chart.

Column A			Column B
(a) $4cm$	()	(p)	$36°$
(b) $6.5cm$	()	(q)	$102°$
(c) $7cm$	()	(r)	$12°$
(d) $8.5cm$	()	(s)	$84°$
		(t)	$78°$
		(u)	$48°$

Short Answer Type Question

1. A bar graph is draph is drawn to the scale of 1cm=k units.

The length of the bar representing 260 units is 5.2 cm. Find the value of k.
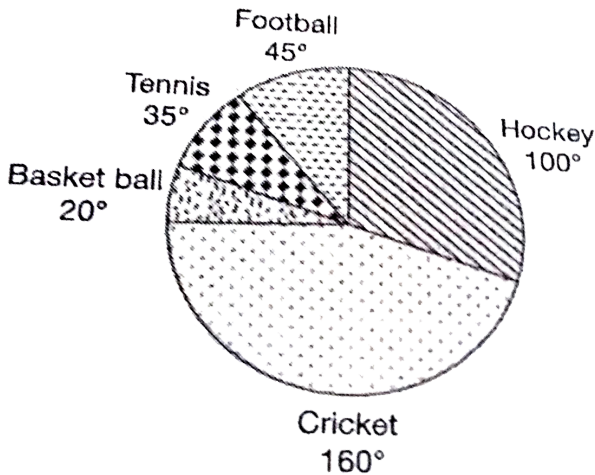
A. 60

B. 80

C. 50

D. 100

Answer: C

2. In a pie chart, a component is represented as a sector with sector angle $108°$, then find the percentage of the value the component totally.

3. The given pie chart shows the amount of money spent by a school on various sports in the year 2015.

Study the pie chart carefully and answer the following question.

(i) If the amount spent on football was Rs. 9000, then how much more money was spent on hockey than on football ?

(ii) If the amount spent on football Rs. 9000, then what was the total amount spent on all sports ?

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4. The histogram given below shows the monthly salaries of four men. Study the graph carefully and answer the question that follow.
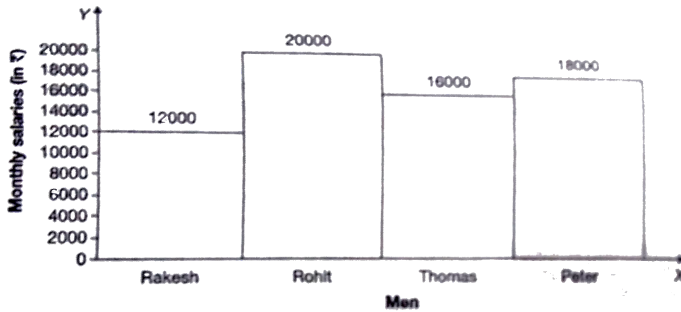
(i) What is the difference between Rohit's and Peter's salaries ?

(ii) If Rakesh spends Rs. 10000 of his salary and saves the rest, how much will save in a year ?

(iii) If Thomas's salary is increased by Rs. 2000, then persons' salary will be equal to that of Thomas ?

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5. The line graph given below shows the number of text messages received by Keerthi during a week. Study The graph carefully and answer the questions that follow.
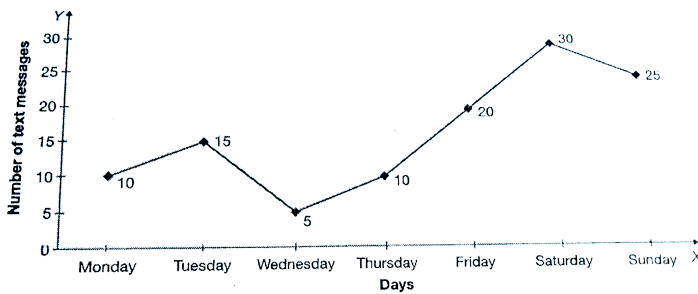
(i) On which day did Keerthi receive exactly 20 text message ?

(iii) Find the total number of text messages received by Keerthi in week.

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6. The following table shows the marks secored by a student in annual examination in various subjects. Draw a histogram to represent the given data.

Subject	Telugu	Hindi	English	Maths	Science	Social Studies
Marks	80	74	82	94	90	88

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7. The following table shows the household expenditure of family on different items. Draw a pie chart to represent the given data.

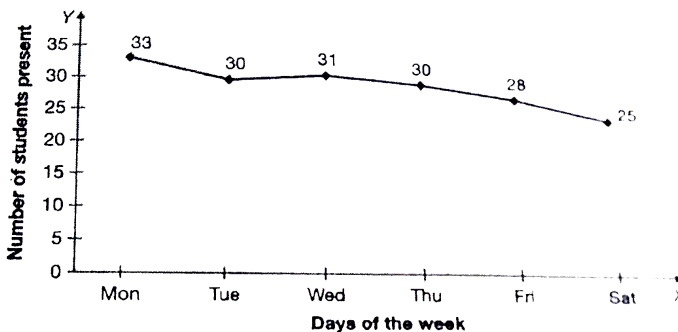| Item	Rent	Food	Cloting	Education	Others
Expenditure	25 %	30 %	10 %	15 %	20 %

8. The following table shows the number of toys sold by a mart during a week. Draw a line graph to represent the given data.

Week	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Number of Toys	21	10	17	24	10	16	20

9. The line graph shows the attendance of 35 students over a week.

(i) On which day of the week was more number of student present ?

(ii) If 18 boys were present on Thursday, then how many girls were present on the same day ?

Concept Application

1. The following table shows various sports played by students in a school.

Sport	Football	Volleyball	Badminbton	Chess
Number of students	68	34	56	42

If we respresent these value in the form of a bar graph, then the height of the bar corresponding to football is $13.6cm$. Find the difference between the height of the bars corresponding to volley ball and badminton.

A. 4.4 cm

B. 6.8 cm

C. 8.8 cm

D. 7.7 cm

Answer: A

2. The following table shows participation in various recreational activities by students of a class during the summer holidays.

Recreational activity	Swimming	Painting	Cycling	Dancing
Number of students	27	9	15	21

if we represent these values in the form of a pie chart, then find the central angle of the sector representing dancing.

A. $114°$

B. $90°$

C. $105°$

D. $98°$

Answer: C

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3. The following table shows the number of marks secured by the students of a class in a 50 marks exam.

Score	Number of stud
Less than or equal to 10 marks	2
More than 10 marks and less then or equal to 20 marks	5
More than 20 marks and less then or equal to 30 marks	9
More than 30 marks and less then or equal to 40 marks	14
More than 40 marks and less then or equal to 50 marks	10

How many students secured less then or equal to 30 marks in that exam ?

A. 9

B. 14

C. 23

D. 16

Answer: D

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4. The ages of 10 teachers in a school are as follows :

22,33,45,52,36,27,28,57,39 and 25 years.

Find the difference between the ages of the eldest and the youngest teacher.

A. 33 years

B. 35 years

C. 57 years

D. 22 years

Answer: B

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5. Amoung the following numbers, 11,18,17,25,16,15,11,18,19,22,7,8,16,15,18,19, which number has the highest frequency ?

A. 11

B. 18

C. 15

D. 19

Answer: B

Assessment Test

1. In a bar graph, the length of a bar is 5.5 cm and it represents 450 units. Find the number of units represents by a bar of length 2.2 cm.

   A. $150 units$

   B. $170 units$

   C. $160 units$

   D. $180 units$

Answer: D

2. In a pie chart, if the central angle of a component is $72°$ ant its value is 48, then find the central angle of a component of value 108.

3. The following table shows the number of students in different classes

of a high school. Draw a histogram to represent the given data.

Classes	VI	VII	$VIII$	IX	X
Number of students	37	42	35	50	48

4. The following table shows the percentage of people having different

blood groups. Draw a pie chart to represent the given data.

Blood group	A	B	C	D
Percentage of people	20	45	20	15

5. The marks obtained by 7 students in Science test are given below :

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

Find the range, mean. Median and mode.

6. 10 oranges are collected from a tree with following weights (in g).

22,15,20,18,16,28,20

7. Find median of the temperature in $(.^\circ C)$ recorded in Manali over a week as given below :

3,4,5,3,7,8,4,

8. The means of 5 observations is 16. Find the sum of these observations.

9. In class test, Priya obtained folowing scores in five subjects :

80,90,85,70,100

Find the range and minimum marks obtained.

10. Calculate data of 6 observations with mean as 10.
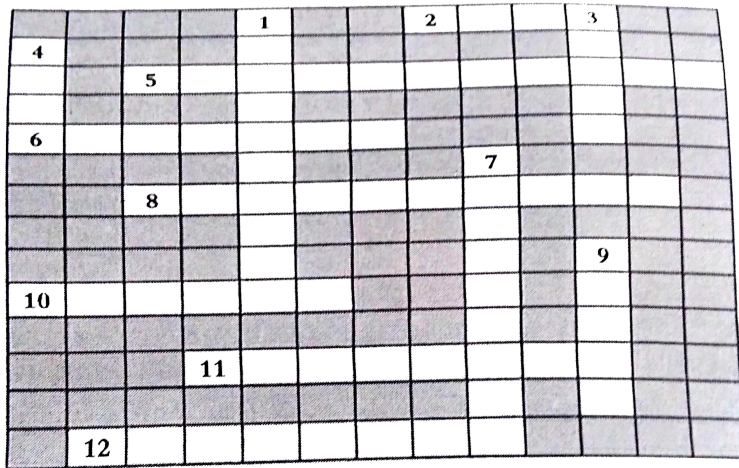
Across

2. Information in numerical form

5. $360°$ times the ratio of copponent value and the sum of values of all compo

6. Circle is divided like these to represent a data

8. Angle of all sectors together

10. In bar graph the value of the data is proportional to this

11. Circular graph

In this graph, data is converted into rectangles

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