EXERCISE # 1

Q.1 Define the terms : (i) Data (ii) Raw Data
(iii) Frequency of an observation

Q.2 Find the mean of first eight natural numbers.

Q.3 Find the range and mean of first six prime numbers.

Q.4 Find the range and mean of first five multiples of 4.

Q.5 A batsman scored the following number of runs in five innings : 56, 53, 50, 36, 60.
Calculate the mean runs scored by him in an inning.

Q.6 The marks (out of 50) obtained by a group of students in a mathematics test are :
45, 46, 40, 45, 49, 38, 46, 48, 30, 22
Find :
(i) Highest and lowest marks obtained by the students.
(ii) Range of the marks obtained.
(iii) Mean marks obtained by the group.
(iv) How many students have marks less than the mean marks ?

Q.7 The enrolment in a school during five consecutive years was as follows :
2455, 1720, 1635, 2440, 2802.
Find the mean enrolment of the school for this period.

Q.8 Find the range of weights of any ten students of your class.

Q.9 Find the median of the following data :
(i) 52, 41, 22, 62, 81, 71, 60, 92, 91, 40, 31
(ii) 92, 104, 101, 43, 107, 63, 64, 120, 93, 32
(iii) 418, 619, 517, 417, 214, 315, 417, 311, 701, 502

Q.10 Find the median of first 10 even numbers.

Q.11 Find the median of all prime numbers lying between 1 and 50.

Q.12 Find the median of first 30 whole numbers.

Q.13 (i) The ages (in years) of 8 teachers in a school are: 50, 40, 36, 31, 43, 52, 46, 53. Find median age.
(ii) The marks of 11 students (out of 50) in an examination are : 35, 21, 24, 17, 23, 29, 25, 19, 17, 19, 40. Find the median marks.

Q.14 Find the mean of first 15 even numbers.

Q.15 Find the mean of first 8 odd numbers.

Q.16 Find the mean of first 5 multiples of 7.

Q.17 Find the average of first 8 whole numbers.

Q.18 In a class of 40 students, the average weight is 51 kg. Find the total weight of all students.

Q.19 The average height of 25 students is 150 cm. What is the total height of all students.

Q.20 Find the missing numbers in the following :
(i) 21, 25, 29, ..., 31, 33 and mean = 28
(ii) 41, 43, ..., 47, 49, 51 and mean = 46
(iii) 11, 13, 18, ..., 14, 21, 26 and mean = 17
(iv) 50, 48, ..., 41, 30 and mean = 43.

Q.21 Mean marks obtained by a student in his five subjects are 15. In English he secured 8 marks, in Hindi 12, in Mathematics 18, and in Science 9. Find out the marks secured by him in History.

Q.22 Make a frequency distribution table for each of the following data :
(i) 7, 6, 5, 3, 7, 6, 7, 5, 3, 2, 5, 3

(ii) 51, 54, 61, 53, 55, 51, 54, 61, 53, 55, 51, 51, 53, 61, 55, 55, 53

Q.23 The following data gives the number of students of Delhi-state who abroad for study during the following years :

Year	1995	1996	1997	1998	1999	2000
Number of Students	1400	1600	1250	1000	2000	2200

Represent the above data with the help of bar graph.

Q.24 In a school, there are five sections of class VII. The number of students in each section is given below. Construct a bar graph from this data :

Section	A	B	C	D	E
Number of Students	40	48	52	45	30

Q.25 Some of the commodities exported by India in 1982 and their values (in ten crore of rupees) are given below :

Commodity	Tea	Coffee	Tobacco	Iron ore
Value (in ├ ten crore)	91	58	35	33

Represent the above data with the help of bar graph.

Q.26 The following data gives the number of applicants registered with an employment exchange during 1981-1985 :

Year	1981	1982	1983	1984	1985
Number of applicants Registered (in thousands)	17	19	22	23	26

Construct a bar graph to represent the above data.

Q.27 Check whether the probability for the following statements is 1, 0 or between 0 and 1 :

(a) You will do your homework today.

(b) Next year Republic day will be on 26th January.

(c) A newly born baby will be a boy.

(d) Marble drawn from a bag containing 3 black and 4 white marbles will be of red colour.

(e) While going for a picnic, you will see an elephant.

(f) The next vehicle you will see will be a car.

(g) You will sleep at night.

(h) Two intersecting lines intersect each other at a point.

(i) Sun will rise tomorrow.

(j) You can solve 500 questions in a hour.

(k) You will buy 2 packets of toffees.

(l) Stars will come on Earth.

(m) The die thrown will have 0 (zero) marked on it.

(n) There are 60 seconds in a minute.

(o) The Earth revolves around the Sun.

(p) A leap year has 366 days.

ANSWER KEY

2. 4.5 **3.** Range = 11, Mean = 6.8 **4.** Range = 16, Mean = 12 **5.** 51

6. (i) 49, 22 (ii) 27 (iii) 40.9 (iv) 4

7. 2210.4 **8.** 4.5 kg

9. (i) 60 (ii) 92.5 (iii) 417.5 **10.** 11 **11.** 19

12. 14.5 **13.** (i) 44.5 (ii) 23 **14.** 16 **15.** 8

16. 21 **17.** 4.5 **18.** 2040 kg **19.** 3750 cm

20. (i) 29 (ii) 45 (iii) 16 (iv) 46 **21.** 28

22. (i) Frequency Distribution Table

Number	Tally Marks	Frequency
2	|	1
3	|||	3
5	|||	3
6	||	2
7	|||	3
	Total	12

(ii) Frequency Distribution Table

Number	Tally Marks	Frequency
51	||||	4
53	||||	4
54	||	2
55	||||	4
61	|||	3
	Total	17

27. (a) between 0 and 1 (b) 1 (c) between 0 and 1 (d) 0 (e) between 0 and 1
(f) between 0 and 1 (g) between 0 and 1 (h) 1 (i) 1 (j) between 0 and 1
(k) between 0 and 1 (l) 0 (m) 0 (n) 1 (o) 1
(p) 1

EXERCISE # 2

Q.1 Following table shows the marks out of 40 of each student scored in four tests :

Student's name	Test I	Test II	Test III	Test IV
Ankur	36	26	30	40
Anjali	24	28	36	0
Himani	39	0	14	33
Atul	Did not give	31	24	30

Now answer the following questions :

(i) Find the mean marks obtained by each student in four tests.

(ii) To find the mean number of marks per test for Atul, would you divide the total points by 4 or 3 ? Why

(iii) Who is the best performer ?

Q.2 The following table shows the weights (in kg) of 10 workers in a factory :

Weight (in kg)	56	53	58	62	65
No. of workers	3	3	2	1	1

Calculate the mean weight.

Q.3 Find the mode of the data :
7, 6, 7, 14, 12, 8, 7, 4, 8, 9, 7

Q.4 Find the mode of the data :
38, 37, 33, 49, 28, 37, 21, 37, 37, 40, 36, 37

Q.5 Find the mean, median and mode for the following data :
12, 3, 18, 7, 4, 9, 7, 19, 20, 15, 8, 17, 2.
Are they equal ?

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

(i) What is the probability of drawing a card with number 3 ?

(ii) What is the probability of drawing a card with number 4 ?

Q.7 A coin is tossed to decide which team starts the game. What is the probability that your team will start ?

Q.8 Arrange the series in ascending order and calculate mode :
15, 18, 19, 20, 18, 18, 22, 25, 26, 30, 20

Q.9 For what value of x, the mode of the following data is 11 ?
7, 9, 11, 17, 11, 19, 21, 9, x – 4

Q.10 For what value of x, the mode of the following data is 18 ?
31, 35, 17, 18, 17, 18, 40, x + 12

Q.11 For what value of x, the mode of the following data is 26 ?
21, 51, 24, 26, 24, 26, 35, x – 1

Q.12 The age of 10 students are given as :
12.5, 15.5, 19, 13.5, 19, 16.5, 19, 18.5, 19, 17.5
Calculate mode.

Q.13 Find the median of first 10 odd numbers.

Q.14 Find the median of first 8 even numbers.

Q.15 If 10, 13, 15, 18, x + 1, x + 3, 30, 32, 35, 41 are ten observations in an ascending order with median 24, find the value of x.

Q.16 Following data gives total marks (out of 600) obtained by five students of a particular class.

Student name	Amit	Abhinav	Bhanu	Deepak	Geetika
Marks obtained	250	400	200	260	300

(i) Who scored lowest and who scored highest marks ?

(ii) Draw the bar graph for the given table.

Q.17 The performance of students in half-yearly and annual examination is as given below. Draw a double bar graph choosing appropriate scale and answer the following :

Subject	Eng.	Phy.	Chem.	Maths	H.Sc.
Half yearly	58	60	77	70	62
Annual	60	54	84	74	64

(i) In which subject, has the children improved their performance the most ?

(ii) Has the performance gone down in any subject ?

Q.18 Number of children in five different sections of class VI are given below. Represent the data on a bar graph

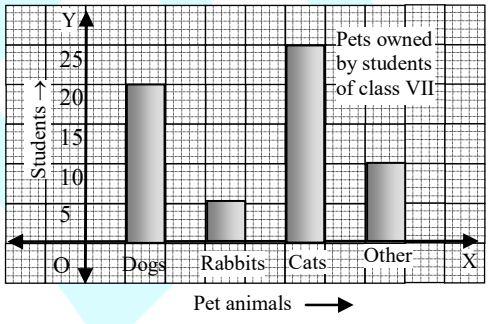
Section	A	B	C	D	E
Number of Children	35	45	35	40	33

(a) How would you choose a scale ?

(b) Which section has the minimum, maximum number of children ?

(c) Find the ratio of students of section A to students of section D.

Q.19 Use the bar graph (fig. Given below) to answer the following questions :

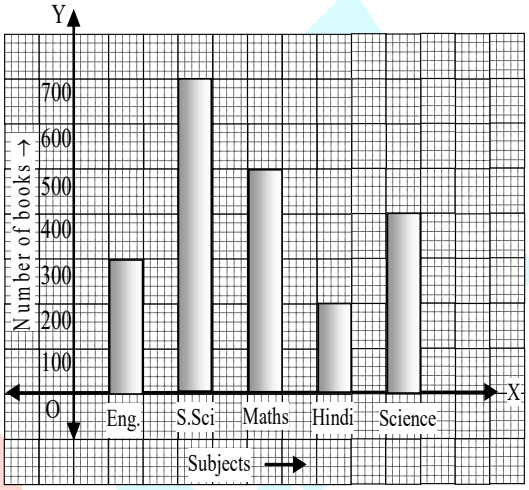


(i) Which is the most popular pet ?

(ii) How many students have cats as a pet ?

(iii) Which is the least popular pet ?

Q.20 Read the bar graph (given in fig. below) which shows the number of books sold by a bookseller of different five subjects. Answer the following questions :



(i) How many books of English, Maths & Science were sold ?

(ii) In which subject about 500 books were sold? About 700 books sold ?

Q.21 Fill in the blanks :

(i) The probability is degree of ..... and .....

(ii) The probability of sure event is .....

(iii) The probability of impossible event is .....

(iv) The value of probability lies between ..... and 1.

Q.22 Tell whether the following is certain to happen, impossible, can happen but not certain :

(i) Tomorrow will be Sunday.

(ii) A die when tossed shall land up numbers less than 7 on top.

(iii) A tossed coin will land up tail.

(iv) You are younger today than yesterday.

(v) In a throw of a coin number getting 1 to 6.

Q.23 A coin is tossed 200 times and head is obtained 80 times. On tossing a coin at random, find the probability of getting (i) a head (ii) a tail.

Q.24 A dice is tossed 100 times and the outcomes are noted as shown below :

Outcome	Frequency
1	20
2	10
3	30
4	15
5	17
6	8

When a dice is thrown at random, find the probability of getting a
(i) 3 (ii) 5 (iii) 1

Q.25 A student found the median 62 of a given data. Describe and correct his error if any :
44, 45, 42, 45, 42, 48, 52

Q.26 Calculate the mean for the following data :

Marks	No. of Students
20	1
19	2
16	3
14	2
13	5
12	4
11	5
10	3

Q.27 A science teacher wants to see whether the new technique of teaching, she applied half yearly were effective or not. She takes the mark of 5 weakest children in the half-yearly test (out of 50) and then the annual test (out of 50) and recorded following scores obtained by these students.

Students	A	B	C	D	E
Half-yearly	19	40	22	25	30
Annual	25	41	36	28	35

Draw a double bar graph. Do you think her new technique has improved the result of students ? In which student you find the least improvement ?

Q.28 What is the probability of getting an ace if one card is picked up from a well shuffled pack of 52 cards ?

ANSWER KEY

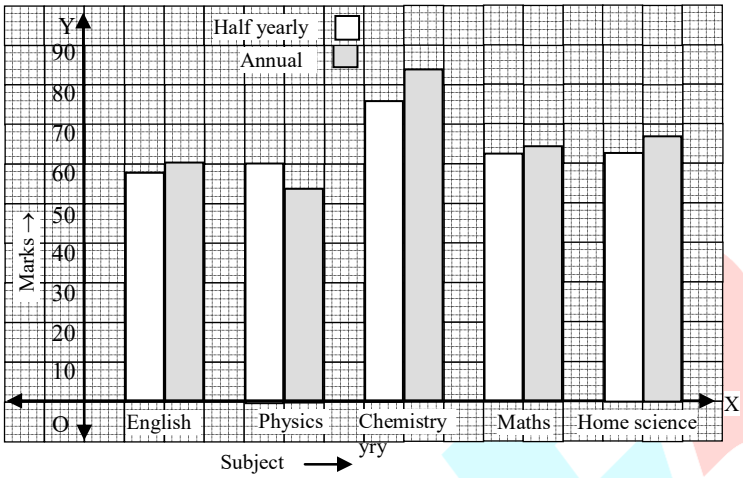
1. (i) Ankur = 33, Anjali = 22, Himani = 21.5, Atul = 21.25 (ii) 4 (iii) Ankur

2. 57 **3.** 7 **4.** 37 **5.** Mean = 10.85, Median = 9, Mode = 7, No

6. (i) $\frac{1}{6}$ (ii) $\frac{1}{6}$ **7.** $\frac{1}{2}$ **8.** 18 **9.** 15 **10.** 6

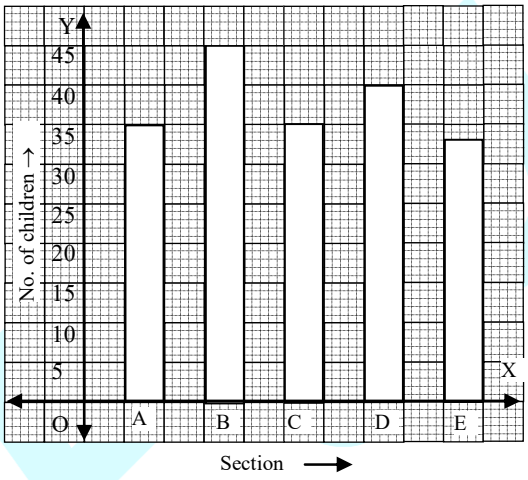
11. 27 **12.** 19 **13.** 10 **14.** 9 **15.** 22

17.



(i) Chemistry (ii) yes, in physics the performance has gone down.

18.



(a) scale → 1 large division = 5 children

(b) minimum = E, maximum = B

(c) 7 : 8

19. (i) cats (ii) 25 (iii) Rabbits

20. (i) English = 300, Maths = 500, Science = 400 (ii) Maths, Social Science

21. (i) certainty, uncertainty (ii) one (iii) zero (iv) zero

22. (i) can happen but not certain (ii) certain to happen (iii) can happen but not certain
(iv) impossible (v) Impossible

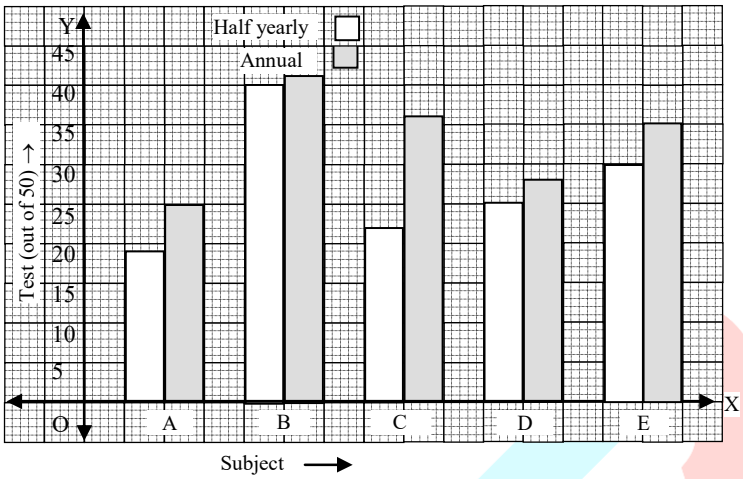
23. (i) $\frac{2}{5}$ (ii) $\frac{3}{5}$

24. (i) $\frac{3}{10}$ (ii) $\frac{17}{100}$ (iii) $\frac{1}{5}$

25. correct median = 45

26. Mean = 13.28

27.



Yes, Student B

28. $\frac{4}{52}$ i.e. $\frac{1}{13}$