

# MATHEMATICS



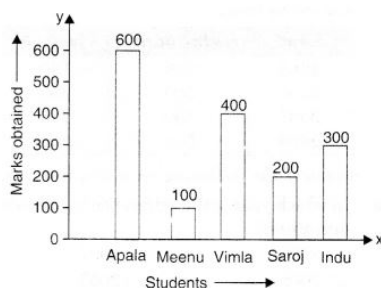
- 1 If the mean of  $n$  observations is 12 and the sum of the observations is 132, then find the value of  $n$ .  
a) 9 b) 10 c) 11 d) 12
- 2 The range of the data 14, 15, 18, 25, 11, 40, 36, 30 is:  
a) 29 b) 27 c) 24 d) 26
- 3 The median of 5, 7, 9, 10, 11 is:  
a) 7 b) 9 c) 11 d) 10
- 4 The mean of the data 15, 20, 20, 16, 22, 17, 23, 18, 24, 25, is:  
a) 26 b) 22 c) 20 d) 18
- 5 If the mode of 22, 21, 23, 24, 21, 20, 23, 26,  $x$  and 26 is 23, then  $x$  is:  
a) 20 b) 21 c) 23 d) 24
- 6 If the mean of 5, 7,  $x$ , 10, 5 and 7 is 7, then find the value of  $x$ .  
a) 6 b) 7 c) 8 d) 9
- 7 The mean of  $p$ ,  $q$  and  $r$  is same as the mean of  $q$ ,  $2r$  and  $s$ . Then which of the following is correct?  
a)  $p = q = r$  b)  $q = r = s$  c)  $q = r = p$  d)  $r = s = p$
- 8 The mean weight of 21 students is 21 kg. If a student weighing 21 kg is removed from the group, the what is the mean weight of the remaining students?  
a) 20 kg b) 21 kg c) 19 kg d) None of these
- 9 Find the area of the shaded part of the given figure, if the radius of the larger circle is 21 cm, and diameter of the both smaller circles is 14 cm.  
a)  $1078\text{ cm}^2$  b)  $1098\text{ cm}^2$  c)  $1100\text{ cm}^2$  d)  $908\text{ cm}^2$
- 10 A sum of ₹12, 500 amounts to ₹15, 500 in 4 years at the rate of simple interest. What is the rate of interest?  
a) 5% b) 6% c) 7% d) 8%
- 11 The range of the data 15, 18, 17, 16, 14,  $x$ , 12, 10, 9, 15 is 9. Which of the following is true about  $x$ ?  
a)  $x > 18$  b)  $x < 9$  c)  $9 \leq x \leq 18$  d) None of these
- 12 There are 7 observations in the data and their mean is 11. If each observation is multiplied by 2, then find the new mean.  
a) 11 b) 13 c) 22 d) None of these
- 17 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
- 18 A batsman scores 80 runs in his 6<sup>th</sup> inning and thus increases his average by 5. What is his average after 6<sup>th</sup> inning?  
a) 66 b) 55 c) 56 d) 65
- 19 Find the altitude of a triangle whose base is 40 cm and area is  $240\text{ cm}^2$ ?  
a) 8 cm b) 12 cm c) 14 cm d) 10 cm
- 20 Find the cost of painting a wall with dimension 25 m by 9 m at the rate of ₹120 per square metre.  
a) ₹25000 b) ₹24550 c) ₹29450 d) ₹27000
- 21 Priya earned ₹25000 in a month. The given graph shows the amount of money saved by Priya in five months. What was the amount of money she spent in five months?  
a) ₹97000 b) ₹100000 c) ₹107000 d) ₹117000
- 22 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
- 23 The given bar graph shows heights of selected lakes. Find the difference in elevation for Lake E and Lake C.  
a) 420 m b) 604 m c) 504 m d) 692 m
- 24 Find the mode from the following data:  
a) 32 b) 37 c) 30 d) 34

25. In the frequency distribution of discrete data given below, the frequency  $p$  against value 3 is missing. If the mean is 2.5, then the missing frequency  $p$  will be \_\_\_\_\_
26. If the mean of 4,  $x$  and  $y$  is 6, then find the mean of  $x$ ,  $y$  and 10 \_\_\_\_\_
35. A batsman scored the following number of runs in six innings: 35, 30, 45, 65, 39, 20  
The mean runs scored by him in an inning is \_\_\_\_\_
36. The mean of the numbers 10, 20, 30 and 40 is \_\_\_\_\_
37. The range of the weights (in kg) of a students of a class given below is: 49, 60, 47, 50, 47, 59, 58, 45, 53 \_\_\_\_\_
38. The marks of 11 students of a class are as given below: 78, 11, 99, 63, 94, 6, 78, 36, 30, 55, 22  
The range of marks is \_\_\_\_\_
39. The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows:

Day	Rainfall (in mm)
Monday	0.0
Tuesday	0.0
Wednesday	1.0
Thursday	2.0
Friday	3.0
Saturday	5.0
Sunday	4.0

On how many days was the rainfall less than 6 mm?

- \_\_\_\_\_
40. The mode of the distribution 3, 5, 7, 4, 2, 1, 4, 3, 4 is \_\_\_\_\_
41. The marks of some students are as given below: 30, 31, 32, 32, 33, 32, 34, 35, 30, 31, 33, 32  
Find the mode of their marks. \_\_\_\_\_
42. The median of the distribution 2, 3, 4, 7, 5, 1, 6 is \_\_\_\_\_
43. The median of the data 20, 30, 40, 10, 15, 25, 35 is \_\_\_\_\_
44. Which of the following statements is true?  
 @ The mode is always one of the numbers in a data  
 @ The mean is always one of the numbers in a data  
 @ Mean < Mode in a data  
 @ Median < Mode in a data  
 \_\_\_\_\_
45. A coin is tossed. What is the probability of getting head? \_\_\_\_\_
46. A coin is tossed. What is the probability of getting tail? \_\_\_\_\_
47. A die is thrown. What is the probability of getting 1? \_\_\_\_\_
48. A die is thrown. What is the probability of getting 6? \_\_\_\_\_

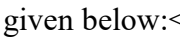


49. Read the following bar graph and answer the following related questions  
 Who got the maximum marks?  
 @ Apala @ Meenu @ Saroj @ Indu  
 \_\_\_\_\_

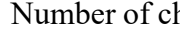
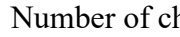


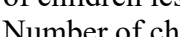
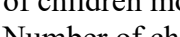

50. Read the following bar graph and answer the following related questions  
 Who got the maximum marks?  
 @Apala@Meenu@Vimla@Indu@0100
51. Read the following bar graph and answer the following related questions  
 The difference between maximum and minimum mark is  
 @100@200@400@500@0001
52. Read the following bar graph and answer the following related questions  
 The ratio between the marks obtained by Saroj and Vimla is  
 @1: 2@2: 3@3: 4@1:6@1000
53. Read the following bar graph and answer the following related questions  
 How many girls have got marks more than 100?  
 @2@3@4@1@0010
54. Read the following bar graph and answer the following related questions  
 Who has got 400 marks? @Vimla@Saroj@Indu@Apala@1000
55. Read the following bar graph and answer the following related questions  
 The difference between the marks obtained by Vimla and Saroj is how many times the difference between the marks obtained by Meenu and Saroj?  
 @2@3@4@6@1000
56. Read the following bar graph and answer the following related questions  
 How many girls have got marks less than 600?  
 @1@2@3@4@0001

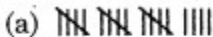
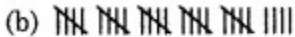
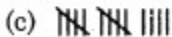
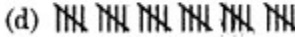
Years	Mathematics	English
2005	200	100
2006	300	250
2007	400	200
2008	500	500

57. Sale of Mathematics and English books in the year 2005, 2006, 2007 and 2008 are given below:  
 Answer the following related question  
 In which year is the difference in the sale minimum?  
 @2008@2007@2006@2005@1000
58. Sale of Mathematics and English books in the year 2005, 2006, 2007 and 2008 are given below:  
 Answer the following related question  
 In which year is the difference in the sale maximum?  
 @2005@2006@2007@2008@0010
59. Sale of Mathematics and English books in the year 2005, 2006, 2007 and 2008 are given below:  
 Answer the following related question  
 The ratio of sales in the year 2005 is  
 @2: 1@3: 1@4: 1@2: 3@1000
60. Sale of Mathematics and English books in the year 2005, 2006, 2007 and 2008 are given below:  
 Answer the following related question  
 The rise in the sale of Mathematics books from 2005 to 2008 is  
 @100@200@300@400@0010

61. Sale of Mathematics and English books in the year 2005, 2006, 2007 and 2008 are given below:  
  
 Answer the following related question  
 The fall in the sale of English books from 2006 to 2007 is

Class	Number of children
6	400
7	350
8	320
9	280
10	225
11	200

62. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 In which class is the number of children maximum?
63. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 In which class is the number of children minimum?
64. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 The difference between the maximum and minimum number of children is
65. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 In how many classes is the number of children less than 500?
66. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 In how many classes is the number of children more than 100?
67. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 The ratio of the number of children of class 6 and 11 is
68. Number of children in six different classes are given below:  
  
 Answer the following related questions  
 The total number of children is
69. The difference between the upper and lower limit is called
70. A process which results in some well defined outcome is known as
71. What is the median of the data 46,64,87, 41,58,77,35,90,55,33,92?
72. In a bar chart, a bar of length 4 cm is drawn. If 1 cm = 1.5 l, what will 4 cm be?
73. The mean weight of 100 students in a class is 46 kg. The mean weight of boys is 50 and of girls is 40 kg. Therefore, the number of boys is:

- 74 The probability of an experiment cannot be greater than: @ 0 @ 0.5 @ 1 @ 2 @ 0010  
The maximum probability an event can have is  $100/100 = 1/1 = 1$
- 75 The number of times an observation occurs in a data is called its @ Range @ Raw data @ Interval @ Frequency @ 0001
- 76 Suppose in a game of ludo, the player requires 1, 3, 5 and 6 to be safe. What is the probability of being unsafe? @ 4/6, @ 3/6, @ 2/6, @ 1 @ 0010
- 77 When a coin is thrown, total number of possible outcomes is \_\_\_\_\_. @ 5 @ 2 @ 6 @ None of these @ 2
- 78 Represent the frequency: 29 in Tally Marks.
- (a)  (b) 
- (c)  (d) 
- @ 0100
- 79 There are 2 red, 3 blue and 5 black balls in a bag. A ball is drawn from the bag without looking in to the bag. What is the probability of getting a non-blue ball?  
@ 3/5 @ 7/10 @ 2/5 @ None of these @ 0100
- 80 Hari is playing snakes and ladders. He wants a six on first dice and a four on other so as to win. What is the probability for him to win if 2nd dice already has a 4? @ 6/6, @ 1/6 @ 4/6, (D) 1/2 @ 0100
- 81 The mean of 6, y, 7, x and 14 is 8. Which of the following is true? @  $x+y = 13$  @  $x-y = 13$  @  $2x+3y = 13$  @  $x^2+y = 15$  @ 1000
- 82 There are 2 red, 3 blue and 5 black balls in a bag. A ball is drawn from the bag without looking in to the bag. What is the probability of getting a non-red ball? @ 4/5, @ 2/5, @ 3/5, @ None of these @ 1000
- 83 If 1 cm = 15 students, what will be the length of line for 90 students? @ 4 cm @ 6 cm @ 6 students @ 9 cm @ 0100
- 84 The mean of five numbers is 27. If one of the numbers is excluded, the mean gets reduced by 2. What is the excluded number? @ 35 @ 27 @ 25 @ 40 @ 1000
- 85 Find the mean if the sum of 18 observations is 90. @ 5 @ 4 @ 6 @ 9 @ 1000
- 86 The arithmetic mean of five given numbers is 85. What is their sum? @ 425 @ 85 @ A number between 85 and 425. @ A number greater than 500. @ 1000
- 87 What is the probability of getting a sum of 13 when 2 dice are rolled?  
@ 13/12 @ 1/12, @ 4/12, @ none of these @ 0001
- 88 Two dice are thrown, find and number of outcomes @ 12 @ 6 @ 36 @ None of these @ 0010
- 89 If we represent the following in Tally Marks:



Marks: What would it mean in whole numbers?

- @ 24 @ 22 @ 28 @ 23 @ 0001
- 90 There are 2 red, 3 blue and 5 black balls in a bag. A ball is drawn from the bag without looking in to the bag. What is the probability of getting a black ball?  
@ 2/5, @ 3/5, @ 1/2, @ None of these @ 1/2 @ 0010
- 91 How many possible outcomes can we get if we toss a coin and throw a dice respectively?  
@ 6, 2 @ 2, 6 @ 1, 3 @ 3, 1 @ 2, 6 @ 0100

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

92. A coin has 3 sides and hence 2 outcomes and a dice has 6 faces, so 6 outcomes. Questions 25-28 are based on the given table:  
Find the Median of people watching sports@ 1240@470@510@430@0100
93. A coin has 3 sides and hence 2 outcomes and a dice has 6 faces, so 6 outcomes. Questions 25-28 are based on the given table:  
Which sport is least popular?@Athletics@Cricket@Basket Ball@Hockey@1000
94. A coin has 3 sides and hence 2 outcomes and a dice has 6 faces, so 6 outcomes. Questions 25-28 are based on the given table:  
Find Mean of people participating in sports@320@330@323@340@0010
95. A coin has 3 sides and hence 2 outcomes and a dice has 6 faces, so 6 outcomes. Questions 25-28 are based on the given table:  
Which sport is most popular?@Cricket@Basket Ball@Swimming@Hockey@1000
96. In the class-interval 70-80, 80 is the@lower limit@upper limit@frequency@range@0100
97. Mode of the observations 1, 2, 2, 4, 4, 5, 6, 7, 7, 7, 8, 8, 9 is:@2@4@7@8@0010
98. The heights of six mountains are 8200 m, 6000 m, 8600 m, 7500 m, 8800 m and 6500 m. Based on this information, answer the questions given. Rakesh and Sanjay planned to go trekking on any of these mountains. They wrote the heights on chits of paper, shuffled them and picked one. What is the probability that the height picked is the maximum?  
@1/3,@2/3,@1/6,@1/4,@0010
99. The median of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 is: @5@6@7@8@0100
100. A dice thrown at random. What is the probability of getting of 2?@1/6, @2/6,@3/6,@4/6, @0010