10th statics and probability

Statistics: Guess question Board exam 2019

Q. Mean of four observations is 12. If first, second, third and fourth observations are decreased by 1, 2, 3 and 4 respectively, then find the new mean.

Q. Class marks of a distribution are 5, 15, 25,. 35, find first and fifth class intervals.

Q. For a certain distribution mode and median were found to be 1000 and 1250 respectively. Find mean for this distribution using an empirical relation.

Q. If the mean of 25 observations is 27 and each observation is decreased by 7, then what will be the new mean?

Q. If the 'less than' type ogive and 'more than type ogive intersect each other at (20.5,15.5), then what will be the median of the given data ?

Q.The mean of the following distribution is 48 and sum of all the frequencies is 50. Find the missing frequencies x and y.

Class	20-30	30-40	40-50	50-60	60-70
Frequency	8	6	x	11	y

Q. The following table gives the daily income of 50 labourers :

Daily Income (Rs)	100 – 120	120 – 140	140 – 160	160 – 180	180 – 200
Number of labourers	12	14	8	6	10

Find the mean and mode of the above data.

Q. The median of the following data is 52.5. If the total frequency is 100, find the values of x and y.

class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
f	2	5	x	12	17	20	y	9	7	4

Q. A school keeps medical record of all the students. Following table shows the gain in weights by 40 students of class X in a year. Find the median gain in weight.

Gain in weight (in kg)	1	2	3	4	5	6	7
Number of students	3	6	8	10	3	8	2

Q. Given below is a cumulative frequency distribution table. Convert this distribution into a cumulative frequency distribution ‘of less than type’.

Value (x)	≥ 100	≥150	≥ 200	≥ 250	≥300	≥350	≥400
Frequency (f)	50	48	41	28	18	8	0

Q. The following table gives the ages of 1000 persons who visited a shopping centre on Sunday:

Age (in years)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	
Number of persons	105	222	220	138	102	113	100	

Q. Weights of students of class X are given in the following frequency distribution:

Weight (in kg)	40-44	44-48	48-52	52-56	56-60	60-64	
Number of students	9	10	15	8	7	1	

Q. In the following frequency distribution, the weekly median cost of Living Index is 1755. If total number of weeks is 52, then find the missing frequencies f1 and f2 in the distribution :

Cost of Living Index	1500- 1600	1600- 1700	1700- 1800	1800- 1900	1900- 2000	2000- 2100	2100- 2200
Number of weeks	4	f1	f2	8	4	3	2

Q. On Sports day of a school, age-wise participation of the students shown in following distribution.:

Age (in years)	5-7	7-9	9-11	11-13	13-15	15-17	17-19
Number of students	x	15	18	30	50	48	y

Find the mode of the data. Also find missing' frequencies when sum or frequencies is 181.

Probability Guess question Board exam 2019

Q. A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball from the bag is three times that of a red ball, find the number of blue balls in the bag.

Q. A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting (i) a red king (ii) a queen or a jack.

Q. A box contains cards numbered 11 to 123. A card is drawn at random from the box. Find the probability that the number on the drawn card is (1) a square number (ii) a multiple of 7

Q A box contains 12 balls of which some are red in colour. If 6 more red balls are put in the box and a ball is drawn at random, the probability of drawing a red ball doubles than what it was before. Find the number of red balls in the bag.

6 Cards marked with number 3, 4, 5, , 50 are placed in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that the selected card bears a perfect square number.

Q. All the black face cards are removed from a pack of 52 cards. Find the probability of getting a, (i) face card (ii) red card (iii) black card (iv) king

Q. Cards marked with numbers 3, 4, 5. , 50 are placed in a bag and mixed thoroughly. One card is drawn at random from the bag. Find the probability that number on the card drawn is : (a) Divisible by 7. (b) A perfect square. (c) A multiple of 6.

Q.From a pack of 52 playing cards, Jacks, Queens and Kings of red colour are removed. From the remaining, a card is drawn at random. Find the probability that drawn card is : (i) a black king, (ii) a card of red colour, (iii) a card of black colour.

Q. The mean and median of 100 observations are 50 and 52 respectively. The value of the largest 4 observation is 100. It was later found that it is 110 not 100. Find the true mean and median.

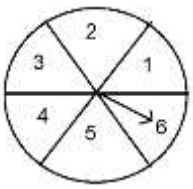
Q. All the red face cards are removed from a pack of 52 playing cards. A card is drawn at random from the remaining cards, after reshuffling them. Find the probability that the drawn card is ; (i) of red colour (ii) a queen (hi) an ace (iv) a face card.

Q.A bag contains 25 cards numbered from 1 to 25. A card is drawn at random from the bag. Find the probability that the number on the drawn card is (i) divisible by 3 or 5 (ii) a perfect square number.

Q. A letter of English alphabet is chosen at random. Determine the probability that the chosen letter is a consonant.

Q. A number x is selected at random from the numbers 1, 2, 3 and 4. Another number y is selected at random from the numbers 1, 4, 9 and 16. Find the Probability that product of x and y is less than 16.

Q. In fig. a disc on which a player spins an arrow twice. The fraction sr) is formed, where 'a' is the number of sector on which arrow stops on the first spin and 'b' is the number of the sector in which the arrow stops on second spin, On each spin, each sector has equal chance of selection by the arrow. Find the a probability that the fraction, $\frac{a}{b}$ >1.



Q. In a family of 3 children, what is the probability of having at least one boy ? There are 8 possible results in the above question.

Sol: BBB [B=Boy, G=Girl],BBG,BGB,GBB,GGG,GGB,GBG,BGG, No. of possible results=7[except all three girls] So, probability is 7/8