DELHI PUBLIC SCHOOL BANGALORE - EAST

MATHEMATICS

PROBABILITY ANSWERKEY

NAME:_____ CLASS: IX SEC:_____ DATE: _____

1. What is the number of outcomes when a coin is tossed?

   Ans: b
2. The sum of all probabilities of all possible outcomes of a trial is 1 .
3. If A and B are the only outcomes of an event and P(A) = 0.32, then P(B) = 0.68 .
4. Two coins are tossed "x" number of times. If the probability of one head is 0.55, where it occurs 275 times, then x = 500 .

5. A coin is tossed 10 times with frequencies: head 4 and tail 6. The probability of no head is $\frac{3}{5}$.

6. Probability of an impossible event is 0 .

7. If the probability of winning a game is 0.7, then the probability of losing the game is 0.3 .

8. Probability of a sure event is 1 .

9. Fifty seeds were selected randomly from each bag of 5 bags of seeds and were kept under standardised conditions favourable to germination. After 20days, the number of seeds which had germinated in each bag were counted and recorded as follows:

Bags	1	2	3	4	5
No. of seeds germinated	40	48	42	39	4

What is the probability of (a) more than 40 seeds in a bag (b) 49 seeds in a bag (c) more than 35 seeds in a bag?

Ans: a) 2/5 b) 0 c) 4/5

10. Find the probability of getting 53 Sundays in (a) a leap year (b) a non leap year.

    Ans: a) 2/7 (Sunday,Monday or Saturday,Sunday) b) 1/7

11. The % of marks obtained by a student in the monthly unit tests are given below:

Unit test	I	II	III	IV	V
% of marks	58	64	76	62	85

Find the probability that the student gets: (a) a first class i.e., at least 60% marks (b) marks between 70% and 80% (c) a distinction i.e., 75% or above. (d) less than 65% marks.

Ans: a) 4/5 b) 1/5 c) 2/5 d) 3/5

12. A bag contains 15 cards bearing number 1, 2, 3, ……., 14, 15. A card is drawn from the bag. Find the probability that it bears (a) a prime number (b) a number divisible by 2.

    Ans: a) $\frac{6}{15}$ =2/5 b) 7/15

13. A die is thrown 50 times and it showed the number 1, 23 times. Find the probability of getting a number other than 1 .

Ans: 27/50

14.A bag contains 12 balls out of which x are white. (a) If one ball is drawn at random, find the P(white ball). (b)If 6 more white balls are put in the bag, the probability of drawing a white ball will be double than that in part (a), find x.

Ans: a) x/12 b) $\frac{x+6}{12+6} = 2\,\frac{x}{12}$ Hence x = 3

15.The data of 1500 families with 2 children is given below:

No. of girls	No. of families
0	211
1	814
2	475

If a family is chosen at random, find the probability that it has

a. at most 1 girl b) at least 1 girl

Ans: a) $\frac{211+814}{1500} = \frac{41}{60}$ b) $\frac{814+475}{1500} = \frac{1289}{1500}$

16.Cards with numbers 2 to 101 are placed in a box. One card is drawn, find the probability that the number on the card is a) a perfect square b) a multiple of 7

Ans: .a) 9/100 b) 7/50

17.A die was rolled up 100 times and the number of times 6 came up was noted. If the probability calculated is $\frac{2}{5}$ then how many times 6 came up?

Ans: $\frac{2}{5} = \frac{x}{100}$ x= 40

18.In a group of 70 people there are 15 boys, 20 girls, 30 men and rest women. Find the probability that a selected person is a female.

Ans: women = 5, required probability = $\frac{25}{70} = \frac{5}{14}$

19.From a deck of 52 well shuffled cards one card is selected at random. Find the probability of getting

b. a heart b) a face card

Ans: a) $\frac{13}{52}$ =1/4 b) $\frac{12}{52}$ =3/13

20.If the probability of winning a race of an athlete is $\frac{1}{6}$ less than twice the probability of losing the race. Find the probability of winning the race.

Ans: Let P(winning) =x then P(losing) =1- x

x = 2(1-x) - $\frac{1}{6}$

Hence x = $\frac{11}{18}$

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