INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS

14. Probability

Name: _____ Date:_____ Class: X Sec: ___

1. A die is thrown once . What will be the probability of getting a prime number ?
   (a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0
2. The probability of getting a composite number greater than 3 on throwing a die is
   (a) 1/6 (b) 1/3 (c) ½ (d) 2/3
3. The number of red balls in a bag is 10 more than the number of black balls. If the probability of drawing a red ball at random from this bag is 3/5, then the number of balls in the bag is
   (a) 50 (b) 60 (c) 80 (d) 40
4. A pair of dice is thrown. The probability that sum of numbers appearing on top faces is at most 10 is :
   (a) $\frac{1}{11}$ (b) $\frac{10}{11}$ (c) $\frac{5}{6}$ (d) $\frac{11}{12}$
5. The probability of drawing an even prime number out of numbers from 1 to 30 is :
   (a) 1/30 b) 10/11 c) 5/6 d) 11/12
6. In a cricket match, a batsman hits the boundary 7 times out of the 42 balls he plays. The probability of his NOT hitting a boundary is
   (a) 1/7 (b) 2/7 (c) 5/6 (d) 1/6
7. Assertion (A): The probability of selecting a number at random from the numbers 1 to 20 is 1.
   Reason (R) : For any event E, if P€=1, then E is called a sure event.
8. Two friends Anil and Ashraf were born in the December month in the year 2010. Find the probability that
   i) They share same date of birth
   ii) They have different dates of birth.
9. The probability of drawing an even prime number out of number from 1 to 30 is :
   (a) 1/30 (b) 4/15 (c) 7/30 (d) 0
10. Rahul is a lucky charm for his cricket team. He has a jar of cards with numbers from 10 to 74. Before each match, he draws a card from the jar. If the card bears an even number, the team wins. If the number is even and divisible by 5, they win by a big margin. If the number is an odd number less than 30, they win by a small margin. And if the number is a prime number between 50 and 74, they lose.

Answer the following questions if Rahul draws a card today :

(i) What is the probability that Rahul draws a card with an even number ?

(ii) What is the probability that Rahul draws a card with an odd number less than 30 ?

(iii) (a) What is the probability that Rahul draws a card with a prime number between 50 and 74 ?

OR

(b) What is the probability that Rahul draws a card with an even number divisible by 5 ?

11. Two dice are thrown at the same time. Determine the probability that the difference of the numbers on the two dice is 2.

12. A bag has 4 red balls and 2 yellow balls. A ball is drawn from the bag without looking into the bag. What is probability of getting a yellow ball?

(a) $\frac{1}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{3}$ (d) 1

13. One card is drawn from a well-shuffled dect of 52 cards:

Find the probability of getting a king of red colour

(a) $\frac{1}{26}$ (b) $\frac{2}{13}$ (c) $\frac{1}{13}$ (d) $\frac{3}{26}$

Find the probability of getting a face card.

(a) $\frac{1}{26}$ (b) $\frac{2}{13}$ (c) $\frac{1}{13}$ (d) $\frac{3}{13}$

Find the probability of getting a black face card

(a) $\frac{1}{26}$ (b) $\frac{2}{13}$ (c) $\frac{1}{13}$ (d) $\frac{3}{26}$

Find the probability of getting an ace.

(a) $\frac{1}{26}$ (b) $\frac{2}{13}$ (c) $\frac{1}{13}$ (d) $\frac{3}{26}$

Find the probability of getting a black card.

(a) $\frac{1}{2}$ (b) $\frac{2}{13}$ (c) $\frac{1}{13}$ (d) $\frac{3}{26}$

14. Two dice are thrown simultaneously. What is the probability that the sum of the numbers appearing on the dice is (i) 7? (ii) a prime number? (iii) 1?

15. Five cards—the ten, jack, queen, king and ace of diamonds, are well-shuffled with their face downwards. One card is then picked up at random.
(i) What is the probability that the card is the queen?
(ii) If the queen is drawn and put aside, what is the probability that the second card picked up is (a) an ace? (b) a queen?

16. The king , queen and jack of clubs are removed from a pack of 52 playing cards. One card is selected at random from the remaining cards. Find the probability that the card is
    (a) neither a heart nor a king
    (b) neither an ace nor a king
    (c) neither a red card nor a queen card
    (d) a black card or an ace.
    (e) either a heart or a spade card
    (f) a king card
    (g) a heart card
    (h) a red card

17. Two coins are tossed simultaneously. Find the probability of getting
    i). at least one head
    ii). at most one head
    iii). exactly two head
    iv). exactly one head
    v). no head
    vi). no tail
    vii). at least one tail
    viii). at most one tail
    ix). exactly two tails
    x). exactly one tail

18. A coin is tossed 3 times. List the possible outcomes. Find the probability of getting (i) all heads (ii) at least 2 heads

19. The probability that it will rain today is 0.84. What is the probability that it will not rain today?

20. What is the probability that an ordinary year has 53 Sundays?

21. Find the probability of getting 53 Fridays in a leap year.

22. Find the probability of getting 53 Fridays or 53 Saturdays in a leap year.

23. 250 lottery tickets were sold and there are 5 prizes on these tickets. If Mahesh purchased one lottery ticket, what is the probability that he wins a prize?