Learnzy Academy

Worksheet: Probability

1. Which of the following experiments have equally likely outcomes? Explain. (i) A driver attempts to start a car. The car starts or does not start. (ii) A player attempts to shoot a basketball. She/he shoots or misses the shot. (iii) A trial is made to answer a true-false question. The answer is right or wrong. (iv) A baby is born. It is a boy or a girl

2. One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting (i) a king of red colour (ii) a face card (iii) a red face card (iv) the jack of hearts (v) a spade (vi) the queen of diamonds

3. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 , and these are equally likely outcomes. What is the probability that it will point at (i) 8 ? (ii) an odd number? (iii) a number greater than 2? (iv) a number less than 9?

4. Two dice are numbered 1, 2, 3, 4, 5, 6 and 1, 1, 2, 2, 3, 3, respectively. They are thrown and the sum of the numbers on them is noted. Find the probability of getting each sum from 2 to 9 separately.

5. Complete the following statements: (i) Probability of an event E + Probability of the event ‘not E’ = _____ . (ii) The probability of an event that cannot happen is _____. Such an event is called _____. (iii) The probability of an event that is certain to happen is . Such an event is called _____. (iv) The sum of the probabilities of all the elementary events of an experiment is _____. (v) The probability of an event is greater than or equal to _____ and less than or equal to _____.

6. A piggy bank contains hundred 50p coins, fifty ■1 coins, twenty ■2 coins and ten ■5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin: (i) will be a 50p coin? (ii) will not be a ■5 coin?

7. 12 defective pens are accidentally mixed with 132 good ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random from this lot. Determine the probability that the pen taken out is a good one.

8. Which of the following cannot be the probability of an event? (A) 2/3 (B) –1.5 (C) 15% (D) 0.7

9. A game consists of tossing a one rupee coin 3 times and noting its outcome each time. Hanif wins if all the tosses give the same result i.e., three heads or three tails, and loses otherwise. Calculate the probability that Hanif will lose the game.

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

11. A bag contains 3 red balls and 5 black balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is (i) red ? (ii) not red?

12. It is given that in a group of 3 students, the probability of 2 students not having the same birthday is 0.992. What is the probability that the 2 students have the same birthday?

13. A die is thrown once. Find the probability of getting (i) a prime number; (ii) a number lying between 2 and 6; (iii) an odd number

14. The record of a weather station shows that out of the past 250 consecutive days, its weather forecasts were correct 175 times. (i) What is the probability that on a given day it was correct? (ii) What is the probability that it was not correct on a given day?

15. Which of the following arguments are correct and which are not correct? Give reasons for your answer. (i) If two coins are tossed simultaneously, there are three possible outcomes—two heads, two tails or one of each. Therefore, for each of these outcomes, the probability is 1/3. (ii) If a die is thrown, there are two possible outcomes—an odd number or an even number. Therefore, the probability of getting an odd number is 1/2.

16. A bag contains lemon flavoured candies only. Malini takes out one candy without looking into the bag. What is the probability that she takes out (i) an orange flavoured candy? (ii) a lemon flavoured candy?

17. (i) A lot of 20 bulbs contain 4 defective ones. One bulb is drawn at random from the lot. What is the probability that this bulb is defective? (ii) Suppose the bulb drawn in (i) is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective ?

18. A coin is tossed two times. Find the probability of getting at most one head.

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

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