



## Tenth Grade - Statistics and Probability

1) What is the probability that a number selected from numbers 1,2,3, ...,30, is a prime number, when each of the given numbers is equally likely to be selected?

- $\frac{2}{3}$
- 1
- $\frac{1}{3}$
- 0

2) A five-digit number is formed by using digits 1,2,3,4 and 5 without repetition. What is the probability that the number is divisible by 4?

- $\frac{21}{40}$
- $\frac{20}{40}$
- $\frac{16}{40}$
- $\frac{22}{40}$

3) You toss a coin and roll a die. What is the probability of getting a tail and a 4 on the die?

- $\frac{4}{68}$
- $\frac{1}{12}$
- $\frac{35}{89}$
- $\frac{3}{65}$

4) An urn contains 6 red,5 blue and 2 green marbles. If three marbles are picked at random, what is the probability that at least one is blue?

- $\frac{113}{14}$
- $\frac{110}{143}$
- $\frac{115}{143}$
- $\frac{112}{143}$



5) A box contains 100 balls, numbered from 1 to 100. If three balls are selected at random and with replacement from the box, what is the probability that the sum of the three numbers on the balls selected from the box will be odd?

- $\frac{1}{2}$
- $\frac{6}{8}$
- $\frac{5}{9}$
- $\frac{4}{8}$

6) In a race, the odd favor of cars P, Q, R, S are 1:3, 1:4, 1:5 and 1:6 respectively. Find the probability that one of them wins the race.

- $\frac{309}{420}$
- $\frac{329}{420}$
- $\frac{319}{420}$
- $\frac{339}{420}$

7) P and Q sit in a ring arrangement with 10 persons. What is the probability that P and Q will sit together?

- $\frac{2}{11}$
- $\frac{1}{11}$
- $\frac{3}{11}$
- $\frac{4}{11}$

8) Two dice are thrown simultaneously. Find the probability of getting a multiple of 2 on one dice and multiple of 3 on the other dice

- $\frac{15}{36}$
- $\frac{14}{36}$
- $\frac{11}{36}$
- $\frac{12}{36}$



9) Two brother X and Y appeared for an exam. The probability of selection of X is  $\frac{1}{7}$  and that of B is  $\frac{2}{9}$ . Find the probability that both of them are selected.

- $\frac{5}{63}$
- $\frac{4}{63}$
- $\frac{2}{63}$
- $\frac{9}{63}$

10) What is the probability of getting at least one six in a single throw of three unbiased dice?

- $\frac{91}{256}$
- $\frac{95}{256}$
- $\frac{93}{256}$
- $\frac{90}{256}$

11) Which of the following experiments have equally likely outcomes? Explain

1. A driver attempts to start a car. The car starts or does not start.
2. A player attempts to shoot a basketball. She/he shoots or misses the shot.
3. A trial is made to answer a true-false question. The answer is right or wrong.
4. A baby is born. It is a boy or a girl.

- 3 and 4
- All
- 1 and 2
- 2 and 3

12) Which of the following cannot be the probability of an event?

- $-1.5$
- $15$
- $0.7$
- $\frac{2}{3}$



13) If  $P(E) = 0.05$ , what is the probability of 'not E'?

- $11/20$
- $12/20$
- $19/20$
- $30/20$

14) 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?

- 0.006
- 0.008
- 0.005
- 0.009

15) 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 not red?

- $5/8$
- $6/8$
- $4/8$
- $3/8$

16) A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be not green?

- $12/17$
- $13/17$
- $11/17$
- $14/17$

17) A piggy bank contains hundred 50p coins, fifty Rs.1 coins, twenty Rs.2 coins and ten Rs. 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 will be a 50p coin?

- $6/18$
- $9/18$
- $8/18$
- $7/18$

18) 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 a number greater than 2?

- $1/4$
- $5/6$
- $3/4$
- $2/4$

19) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting a king of red colour?

- $1/26$
- $4/52$
- $5/52$
- $1/52$

20) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting Jack of hearts?

- $1/52$
- $4/52$
- $5/52$
- $1/26$



21) 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.

- $7/12$
- $10/12$
- $11/12$
- $5/12$

22) 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?

- $4/5$
- $3/5$
- $1/5$
- $2/5$

23) A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a two-digit number?

- $3/10$
- $9/10$
- $6/10$
- $4/10$

24) A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a perfect square number.

- $6/45$
- $4/45$
- $5/45$
- $2/45$



25) A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a number divisible by 5.

- $1/5$
- $3/5$
- $4/5$
- $2/5$

26) A child has a die whose six faces show the letters as 'A B C D E A'. The die is thrown once. What is the probability of getting A?

- $5/6$
- $4/6$
- $1/3$
- $2/3$

27) Suppose you drop a die at random on the rectangular region. What is the probability that it will land inside the circle with diameter 1m?

- $18/84$
- $11/84$
- $16/84$
- $13/84$

28) 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?

- $3/4$
- $1/4$
- $2/4$
- 0



29) A lot consists of 144 ball pens of which 20 are defective and the others are good. Nuri will buy a pen if it is good, but will not buy if it is defective. The shopkeeper draws one pen at random and gives it to her. What is the probability that She will buy it?

- $31/36$
- $29/36$
- $30/36$
- $34/35$

30) A die is thrown twice. What is the probability that 5 will not come up either time?

- $23/36$
- $22/36$
- $25/36$
- $21/36$