



# MATHS

## BOOKS - MARVEL MATHS (HINGLISH)

### BERNOULLI TRIALS AND BINOMIAL DISTRIBUTION

#### Multiple Choice Questions

1. Let  $p$  be the probability of happening of an event, and  $q$  of its non- happening then the

total chance of  $r$  successes in  $n$  trials

$0 \leq r \leq n$ , is

A.  ${}^n C_r \cdot p^r \cdot q^{n-r}$

B.  ${}^n C_r \cdot p^{r-1} \cdot q^{r+1}$

C.  ${}^n C_r \cdot P^{r+1} \cdot q^{r-1}$

D.  ${}^n C_r \cdot P^r \cdot q^r$

**Answer: A**



**Watch Video Solution**

2. IF  $X \rightarrow B(n = 10, p)$  and  $E(X) = 5$  then  $p$  and  $Var(x)$  are \_\_\_\_\_.

A. 0.2

B. 0.8

C. 0.1

D. none of these

**Answer: B**



**Watch Video Solution**

3. IF  $X \rightarrow B(n = 10, p)$  and  $E(X) = 5$

then P and V(x) are .

A.  $\frac{5}{2}, \frac{7}{2}$

B.  $\frac{1}{2}, \frac{5}{2}$

C.  $\frac{3}{2}, \frac{9}{2}$

D. none of these

**Answer: B**



**Watch Video Solution**

4. Let  $X \sim B(n, P)$ . If  $E(X) = 5$  and  $\text{Var}(x) = 2.5$  find  $n$  and  $p$

A. 10,0.5

B. 20,0.4

C. 10,0.4

D. none of these

**Answer: A**



**Watch Video Solution**

5. A die is tossed 5 times. Getting an odd number is considered a success. Then, the variance of distribution of success, is

A.  $\frac{8}{3}$

B.  $\frac{3}{8}$

C.  $\frac{4}{5}$

D.  $\frac{5}{4}$

**Answer: D**



**Watch Video Solution**

6. In tossing 10 coins, the probability of getting exactly 5 heads is

A.  $\frac{193}{256}$

B.  $\frac{9}{128}$

C.  $\frac{1}{2}$

D.  $\frac{63}{256}$

**Answer: D**



**Watch Video Solution**

7. The probability that an event A happens in one trial of an experiment, is 0.4. There are independent trials of the experiments performed. The probability that the event A happens at least once, is

A. 0.936

B. 0.216

C. 0.784

D. 0.064

**Answer: C**



 Watch Video Solution

8. Mean and variance of a binomial variate  $X$  are 4 and 2 respectively Then  $P(X = 1) = \dots\dots$

A.  $\frac{1}{32}$

B.  $\frac{1}{16}$

C.  $\frac{1}{8}$

D.  $\frac{1}{4}$

**Answer: A**

 Watch Video Solution

9. Mean and variance of a binomial distribution are 4 and 2 respectively . Then probability of 3 successes is

A.  $\frac{128}{256}$

B.  $\frac{219}{256}$

C.  $\frac{7}{64}$

D.  $\frac{28}{256}$

**Answer: C**



**Watch Video Solution**

10. If the mean and the variance of a binomial variable  $X$  are 2 and 1 respectively, then the probability that  $X$  takes a value greater than one is equal to:

A.  $\frac{5}{16}$

B.  $\frac{9}{16}$

C.  $\frac{11}{16}$

D. none of these

**Answer: C**



Watch Video Solution

11. A contest consist of predicting the result win, draw or defeat of 7 football matches. A sent his entry predicting at random. The probability that his entry will contain exactly 4 correct predictions is

A.  $\frac{8}{3^7}$

B.  $\frac{16}{3^7}$

C.  $\frac{280}{3^7}$

D.  $\frac{560}{3^7}$

**Answer: C**



**Watch Video Solution**

**12.** Six ordinary dice are rolled. The probability that at least half of them will show at least 3 is

A.  $41 \times \frac{2^4}{3^6}$

B.  $\frac{2^4}{3^6}$

C.  $20 \times \frac{2^4}{3^6}$

D. none of these

**Answer: A**



**Watch Video Solution**

**13.** Given  $X \rightarrow B(n = 5, p)$

IF

$P(X = 1) = 0.4096$  and  $P(X = 2) = 0.2048$ ,

then :P =....

A.  $\frac{1}{2}$

B.  $\frac{1}{3}$

C.  $\frac{1}{4}$

D.  $\frac{1}{5}$

**Answer: D**



**Watch Video Solution**

**14.** If  $X$  follows the binomial distribution with parameters  $n=6$  and  $p$  and  $9P(X=4)=P(X=2)$ , then  $p$  is

A.  $\frac{1}{2}$

B.  $\frac{1}{3}$

C.  $\frac{1}{4}$

D. none of these

**Answer: C**



**Watch Video Solution**

**15.** If in a binomial distribution

$$n = 4, P(X = 0) = \frac{16}{81}, \text{ then } P(X = 4)$$

equals  $\frac{1}{16}$  b.  $\frac{1}{81}$  c.  $\frac{1}{27}$  d.  $\frac{1}{8}$

A.  $\frac{1}{16}$



B.  $\frac{1}{81}$

C.  $\frac{1}{27}$

D.  $\frac{1}{8}$

**Answer: B**



**Watch Video Solution**

**16.** For a binomial vareiate  $X$  if  $n=5$  and  $P(X=1)=8P(X=3)$ , then  $p=$

A.  $\frac{4}{5}$

B.  $\frac{1}{5}$

C.  $\frac{1}{3}$

D.  $\frac{2}{3}$

**Answer: B**



**Watch Video Solution**

17. One hundred identical coins, each with probability  $p$ , of showing up heads are tossed once. If  $\theta$

A.  $\frac{1}{2}$

B.  $\frac{49}{101}$

C.  $\frac{50}{101}$

D. none of these

**Answer: D**



**Watch Video Solution**

**18.** A fair coin is tossed a fixed number of times. If the probability of getting seven heads is

equal to that of getting nine heads, the probability of getting two heads, is

A.  $\frac{15}{2^8}$

B.  $\frac{2}{15}$

C.  $\frac{15}{2^{13}}$

D. none of these

**Answer: C**



**Watch Video Solution**

19. If a coin is tossed 6 times , then probability of getting 4 or more haeads is

A.  $\frac{10}{32}$

B.  $\frac{11}{32}$

C.  $\frac{12}{32}$

D.  $\frac{13}{32}$

**Answer: B**



**Watch Video Solution**

20. If  $X \rightarrow B(n = 10, p = 0.8)$

then :P (at most 3 successes )=...

A.  $\frac{7680}{5^{10}}$

B.  $\frac{720}{5^{10}}$

C.  $\frac{8361}{5^{10}}$

D. none of these

**Answer: D**



**Watch Video Solution**

21. IF  $X \rightarrow B(n = 9, p = 0.8)$ ,

then:  $P(X \geq 6) = \frac{4^7}{5^9}(k)$  where  $k =$

A. 109

B. 110

C. 111

D. 112

**Answer: A**



**Watch Video Solution**

22. IF  $X \rightarrow B(n = 20, p = 0.1)$  then :P

$(X \geq 1) = \dots$

A.  $(0.1)^{20}$

B.  $1 - (0.1)^{20}$

C.  $1 - (0.9)^{20}$

D.  $(0.9)^{20}$

**Answer: C**



**Watch Video Solution**



23. If  $X \rightarrow B(n = 10, p = 0.5)$  then :

$$p(X \geq 9) = \dots$$

A.  $\frac{120}{1024}$

B.  $\frac{45}{1024}$

C.  $\frac{10}{1024}$

D. none of these

**Answer: D**



**Watch Video Solution**

24. If  $X \rightarrow B(n = 10, p = 0.5)$  then :

$$p(X \geq 9) = \dots$$

A.  $\frac{10}{1024}$

B.  $\frac{1}{1024}$

C.  $\frac{11}{1024}$

D. none of these

**Answer: C**



**Watch Video Solution**

25. A coin is tossed 5 times. What is the probability of getting at least 3 heads.

A.  $\frac{11}{16}$

B.  $\frac{15}{16}$

C.  $\frac{13}{16}$

D. none of these

**Answer: D**



**Watch Video Solution**

26. Workers in an industry have a 10% chance of suffering from an occupational disease. Probability that, out of 6 workers, at least 5 will catch the disease is

A.  $\frac{11}{2,00,000}$

B.  $\frac{11}{2,000}$

C.  $\frac{11}{200}$

D. none of these

**Answer: A**



**Watch Video Solution**

27. Hens of a certain breed lay eggs 5 days a week on an average. A poultry keeper with 5 hens of this breed expects to get at least 4 eggs per day, then, in a season of 100 days, his wish will be fulfilled on.....

[ Given :  $\left(\frac{5}{7}\right)^5 = 0.1859$  ]

A. 55 days

B. 56 days

C. 57 days

D. none of these

**Answer: B**



**View Text Solution**

**28.** As an answer to a question , two options are given only one of which is correct , then the probability of correctly answering at least 6 of the 10 questions is ....

A.  $\frac{210}{512}$

B.  $\frac{120}{512}$

C.  $\frac{193}{512}$

D. none of these

**Answer: C**



**Watch Video Solution**

**29.** Jui's chance of winning a single game against Vrushali is  $\frac{3}{4}$  probability that , in a series of 5 games ,jui wins at least 3 games is ....

A.  $\frac{135}{512}$

B.  $\frac{459}{512}$

C.  $\frac{324}{512}$

D. none of these

**Answer: B**



**Watch Video Solution**

**30.** A fair coin is tossed 9 times. The probability that it shows heads in the first four tosses and tails in the last five tosses is

A.  $\frac{1}{512}$



B.  $\frac{16}{512}$

C.  $\frac{64}{512}$

D. none of these

**Answer: A**



**Watch Video Solution**

**31.**

**IF**

$x \rightarrow B(n = 6, P = 0.3)$  and  $(0.3)^6 = 0.000729$

then :  $P(x \leq 4) = \dots$

A. 0.9890

B. 0.9739

C. 0.9980

D. none of these

**Answer: A**



**Watch Video Solution**

**32.**

**IF**

$X \rightarrow B(n = 20, p = 0.03)$  and  $(0.97)^{20} = 0.5437$

then :  $P(X \geq 1) =$

A. 0.5463

B. 0.6453

C. 0.4563

D. none of these

**Answer: C**



**Watch Video Solution**

**33.** A coin is tossed  $n$  times. The probability that head will turn up an odd number of times, is

A.  $\frac{1}{3}$

B.  $\frac{1}{2}$

C.  $\frac{2}{3}$

D. none of these

**Answer: B**



**Watch Video Solution**

**34.** A man takes a step forward with probability 0.4 and backward with probability 0.6. The

probability that at the end of eleven steps he is just one step away from the starting point, is

A. 0.37

B. 0.32

C. 0.54

D. none of these

**Answer: A**



**Watch Video Solution**

35. If  $n$  toys are distributed among  $N$  boys randomly, then the probability that a particular boy gets  $r$  ( $< n$ ) toys is

A.  $\frac{r}{n}$

B.  ${}^n C_6 \left(\frac{1}{N}\right)^r$

C.  ${}^n C_r \cdot \left(\frac{1}{N}\right)^r \cdot \left(\frac{N-1}{N}\right)^{n-r}$

D. none of these

**Answer: C**



**Watch Video Solution**

36. If  $X$  follows a binomial distribution with parameters  $n = 8$  and  $p = 1/2$ , then  $p(|X - 4| \leq 2)$  equals

A.  $\frac{119}{128}$

B.  $\frac{116}{128}$

C.  $\frac{29}{128}$

D. none of these

**Answer: A**



**Watch Video Solution**

**37.** A coin is rolled  $n$  times. If the probability of getting head at least once is greater than 90 % then the minimum value of  $n$  is

A. 3

B. 4

C. 5

D. none of these

**Answer: B**



**Watch Video Solution**



38. If  $X$  is a binomial variate with parameters  $n$

and  $p$ , where  $0 < p < 1$  such that

$\frac{P(X = r)}{P(X = n - r)}$  is independent of  $n$  and  $r$ , then

$p$  equals.

A.  $\frac{1}{3}$

B.  $\frac{1}{2}$

C.  $\frac{1}{4}$

D. none of these

**Answer: B**



**Watch Video Solution**

**39.** Number of times a fair coin must be tossed so that the probability of getting at least one head is at least 0.95 is

A. 5

B. 6

C. 7

D. 12

**Answer: A**



**Watch Video Solution**

**40.** An unbiased coin is tossed  $n$  times. Let  $X$  denote the number of times head occurs. If  $P(X = 4)$ ,  $P(X = 5)$  and  $P(X = 6)$  are in A.P, then the value of  $n$  can be

- A. 7
- B. 10
- C. 12
- D. 24

**Answer: A**



Watch Video Solution

41. If A and B toss 3 coins each, The probability that both get equal number of heads is

A.  $\frac{3}{8}$

B.  $\frac{1}{9}$

C.  $\frac{5}{16}$

D. none of these

**Answer: C**



Watch Video Solution

42. IF  $X$  and  $Y$  are independent binomial variables such that  $X \rightarrow B(5, 0.5)$  and  $Y \rightarrow B(7, 0.5)$ . then  $p[(X + Y) > 1] = \dots$

A.  $\frac{4095}{4096}$

B.  $\frac{3.9}{4096}$

C.  $\frac{4032}{4096}$

D. none of these

**Answer: A**



View Text Solution

43. If  $X$  and  $Y$  are independent binomial variates  $B\left(5, \frac{1}{2}\right)$  and  $B\left(7, \frac{1}{2}\right)$  and the value of  $P(X + Y = 3)$  is

A.  $\frac{55}{1024}$

B.  $\frac{55}{4098}$

C.  $\frac{55}{2048}$

D.  $\frac{55}{128}$

**Answer: A**



Watch Video Solution

44. If 10 coins are tossed simultaneously, then probability of getting at least 7 heads is

A.  $\frac{120}{1024}$

B.  $\frac{45}{1024}$

C.  $\frac{10}{1024}$

D.  $\frac{176}{1024}$

**Answer: D**



Watch Video Solution

45. If a fair coin is tossed 8 times , then the probability that it shows heads larger number of times than tails is

A.  $\frac{56}{256}$

B.  $\frac{93}{256}$

C.  $\frac{28}{256}$

D.  $\frac{8}{256}$

**Answer: B**



**Watch Video Solution**



**46.** If the chance of a gushot hitting a target is 0.2 then the probability that at least 2 shots out of 10 will hit the target is

A.  $1 - \left(\frac{4}{5}\right)^{10}$

B.  $1 - 7\left(\frac{4}{5}\right)^{10}$

C.  $1 + \frac{7}{2}\left(\frac{4}{5}\right)^{10}$

D. none of these

**Answer: D**



**Watch Video Solution**

47. Numberse are selected at random, one at a time, from the two-digit numbers 00,01,02,...99 with replacement. An event E occurs if and only if the product of the two digits of a selected number is 18. If four numbers are selected, find probability that the event E occurs at least 3 times.

A.  $\frac{68}{(25)^4}$

B.  $\frac{72}{(25)^4}$

C.  $\frac{97}{(25)^4}$

D. none of these

**Answer: C**



**Watch Video Solution**

**48.** A boy is throwing stones at a target. The probability of hitting the target at any trial is  $\frac{1}{2}$

The probability of hitting the target 5th time at the 10th throw is

A.  $\frac{5}{2^{10}}$

B.  $\frac{63}{2^9}$

C.  $\frac{{}^{10}C_5}{2^{10}}$

D. none of these

**Answer: B**



**Watch Video Solution**

**49.** From a box containing 20 tickets marked with numbers 1 to 20, four tickets are drawn one by one. After each draw, the ticket is replaced. The probability that the largest value of tickets drawn is 15 is.

A.  $\left(\frac{3}{4}\right)^4$

B.  $\frac{27}{320}$

C.  $\frac{27}{1280}$

D. none of these

**Answer: B**



**Watch Video Solution**

**50.** In a box containing 100 bulbs, 64 are defective. Probability that in a sample of 5 bulbs, none is defective, is

A.  $\left(\frac{9}{25}\right)^5$

B.  $\frac{9}{10}$

C.  $\frac{1}{10^5}$

D.  $\left(\frac{1}{2}\right)^2$

**Answer: A**



**Watch Video Solution**

**51.** Items produced by a company are supposed to contain 5% defective items .probability that a

sample of 8 items will contain less than 2 defective items is

A.  $\frac{27}{20} \left( \frac{19}{20} \right)^7$

B.  $\frac{541}{400} \left( \frac{19}{20} \right)^6$

C.  $\frac{153}{20} \left( \frac{1}{20} \right)^7$

D.  $\frac{35}{16} \left( \frac{1}{20} \right)^6$

**Answer: A**



**Watch Video Solution**

52. IF  $X \rightarrow B(n, p)$  and  $Y = n - X$  then :

$Y \rightarrow$

A.  $B(p, n)$

B.  $B(n, 1, -p)$

C.  $N(0, 1)$

D. none of these

**Answer: B**



**View Text Solution**



53. A binomial probability distribution is symmetrical. If the probability  $p$  of success in a single trial is

- A. greater than  $1/2$
- B. Less than  $1/2$
- C. less than  $q = 1 - p$
- D. equal to  $1/2$

**Answer: D**



**View Text Solution**

54. The probability that a marksman will hit a target is given is  $1/5$ . Then the probability that at least once hit in 10 shots is  $1 - (4/5)^{10}$  b.  $1/5^{10}$  c.  $1 - (1/5)^{10}$  d.  $(4/5)^{10}$

A.  $\left(\frac{1}{5}\right)^{10}$

B.  $1 - \left(\frac{1}{5}\right)^{10}$

C.  $1 - \left(\frac{4}{5}\right)^{10}$

D. none of these

**Answer: C**



**Watch Video Solution**

55. Five coins are tossed simultaneously. The probability that at least one head turning up, is

A.  $\frac{1}{32}$

B.  $\frac{5}{32}$

C.  $\frac{7}{16}$

D.  $\frac{31}{32}$

**Answer: D**



**Watch Video Solution**

56. एक प्रयोग के सफल होने का संयोग उसके असफल होने से दो गुना है। प्रायिकता ज्ञात कीजिए कि अगले छः परीक्षणों में कम से कम 4 सफल होंगे।

A.  $\frac{496}{729}$

B.  $\frac{233}{729}$

C.  $\frac{432}{729}$

D.  $\frac{256}{729}$

**Answer: A**



**Watch Video Solution**

57. India plays two matches each with West Indies and Australia. In any match the probabilities of India getting points 0, 1 and 2 are 0.45, 0.05 and 0.50 respectively. Assuming that the outcomes are independent, the probability of India getting at least 7 points is  
(a) 0.8750 (b) 0.0875 (c) 0.0625 (d) 0.0250

A.  $\frac{1}{80}$

B.  $\frac{7}{80}$

C.  $\frac{7}{8}$

D.  $\frac{1}{8}$

**Answer: B**



**Watch Video Solution**

**58.** The probability of India winning a test match against England is  $\frac{2}{3}$ . Assuming independence from match to match, the probability that in a 7 match series India's third win occurs at the fifth match, is

A.  $\frac{8}{27}$

B.  $\frac{16}{81}$

C.  $\frac{8}{81}$

D.  $\frac{32}{81}$

**Answer: B**



**Watch Video Solution**

**59.** A die is thrown 100 times, getting an even number is considered a success. The variance of the number of successes is

A. 50

B. 25

C. 10

D. 100

**Answer: B**



**Watch Video Solution**

**60.** If turning up 1 or 3 is considered a success ,  
then the S.D of number of successes in 8 throws  
is



A.  $\frac{16}{9}$

B.  $\frac{8}{3}$

C.  $\frac{4}{3}$

D.  $\frac{2}{3}$

**Answer: C**



**Watch Video Solution**

**61.** A die is tossed 5 times. Getting an odd number is considered a success. Then, the variance of distribution of success, is

A.  $\frac{8}{3}$

B.  $\frac{3}{8}$

C.  $\frac{4}{5}$

D.  $\frac{5}{4}$

**Answer: D**



**Watch Video Solution**

**62.** A box contains 100 bulbs out of which 10 are defective. A sample of 5 bulbs is drawn. The probability that none is defective , is

A.  $\left(\frac{1}{10}\right)^5$

B.  $\frac{9}{10}$

C.  $\left(\frac{1}{2}\right)^2$

D.  $\left(\frac{9}{10}\right)^5$

**Answer: D**



**Watch Video Solution**

**63.** If in a binomial distribution

$n = 4$ ,  $P(X = 0) = \frac{16}{81}$ , then  $P(X = 4)$

equals  $\frac{1}{16}$  b.  $\frac{1}{81}$  c.  $\frac{1}{27}$  d.  $\frac{1}{8}$

A.  $\frac{1}{16}$

B.  $\frac{1}{81}$

C.  $\frac{1}{27}$

D.  $\frac{1}{8}$

**Answer: B**



**Watch Video Solution**

**64.** A biased coin with probability  $p$ ,  $0 < p < 1$  of heads is tossed until a head appears for the

first time. If the probability that the number of tosses required is even is  $\frac{2}{5}$ , then  $p$  equals

A.  $\frac{1}{3}$

B.  $\frac{2}{3}$

C.  $\frac{2}{5}$

D.  $\frac{3}{5}$

**Answer: A**



**Watch Video Solution**

65. A fair coin is tossed repeatedly. If tail appears on first four tosses, then the probability of head appearing that 2 white and 1 black balls will be drawn, is

A.  $\frac{1}{2}$

B.  $\frac{1}{32}$

C.  $\frac{31}{32}$

D.  $\frac{1}{16}$

**Answer: D**



**Watch Video Solution**

66. A coin is tossed  $2n$  times. The chance that the number of times one gets head is not equal to the number of times one gets tail is

A.  ${}^{2n}C_n \cdot \left(\frac{1}{2}\right)^{2n}$

B.  $1 - {}^{2n}C_n$

C.  $1 - {}^{2n} \cdot \left(\frac{1}{4}\right)^n$

D. none of these

**Answer: C**



**Watch Video Solution**

67. Two cards are drawn successively with replacement from a well shuffled deck of 52 cards, then the mean of the number of aces is

A.  $\frac{1}{13}$

B.  $\frac{3}{13}$

C.  $\frac{2}{13}$

D. none of these

**Answer: C**



**Watch Video Solution**



68. The sum of the mean and variance of a binomial distribution is 15 and the sum of their squares is 117. The mean of the distribution is

- A. 6
- B. 9
- C. 3
- D. 12

**Answer: B**



**Watch Video Solution**

69. Two coins are tossed five times. The probability that an odd number of heads are obtained, is

A.  $\left(\frac{1}{2}\right)^5$

B.  $\frac{3}{5}$

C.  $\frac{2}{5}$

D. none of these

**Answer: D**



**Watch Video Solution**

70. A fair coin is tossed  $n$  times. if the probability that head occurs 6 times is equal to the probability that head occurs 8 times, then find the value of  $n$ .

A. 7

B. 14

C. 16

D. 19

**Answer: B**



Watch Video Solution

71. The mean and variance of a random variable  $X$  having a binomial distribution are 4 and 2 respectively. The  $P(X = 1)$  is

A.  $\frac{1}{32}$

B.  $\frac{1}{16}$

C.  $\frac{1}{8}$

D.  $\frac{1}{4}$

**Answer: A**



Watch Video Solution

72. The mean and the variance of a binomial distribution are 4 and 2 respectively. Then, the probability of 2 successes is

A.  $\frac{37}{256}$

B.  $\frac{219}{256}$

C.  $\frac{128}{256}$

D.  $\frac{28}{256}$

**Answer: D**



Watch Video Solution

73. A pair of fair dice is thrown independently three times. The probability of getting a score of exactly 9 twice is (1)  $1/729$  (2)  $8/9$  (3)  $8/729$  (4)  $8/243$

A.  $\frac{1}{729}$

B.  $\frac{8}{9}$

C.  $\frac{8}{729}$

D.  $\frac{8}{243}$

Answer: D



Watch Video Solution

74. In a binomial distribution  $B\left(n, p = \frac{1}{4}\right)$ , if

the probability of at least one success is greater

than or equal to  $\frac{9}{10}$ , then  $n$  is greater than (1)

$$\frac{1}{(\log)_{10}^4 - (\log)_{10}^3} \quad (2) \quad \frac{1}{(\log)_{10}^4 + (\log)_{10}^3} \quad (3)$$

$$\frac{1}{9} \quad (4) \quad \frac{1}{4}$$

A.  $\frac{1}{\log(10)4 - \log_{10} 3}$

B.  $\frac{1}{\log_{10} 4 + \log_{10} 3}$

$$C. \frac{9}{\log_{10} 4 - \log_{10} 3}$$

$$D. \frac{9}{\log_{10} - \log_{10} 3}$$

**Answer: A**



**Watch Video Solution**

**75.** Numberse are selected at random, one at a time, from the two-digit numbers 00,01,02,...,99 with replacement. An event E occurs if and only if the product of the two digits of a selected number is 18. If four numbers are selected, find



probability that the event E occurs at least 3 times.

A.  $\frac{24}{(25)^4}$

B.  $\frac{25}{(25)^4}$

C.  $\frac{49}{(25)^4}$

D.  $\frac{97}{(25)^4}$

**Answer: D**



**Watch Video Solution**

**76.** The probability that an event A happens in one trial of an experiment, is 0.4. There are independent trials of the experiments performed. The probability that the event A happens at least once, is

A. 0.936

B. 0.784

C. 0.904

D. none of these

**Answer: B**

77. One hundred identical coins, each with probability  $p$ , of showing up heads are tossed once. If  $\frac{1}{2}$

A.  $\frac{1}{2}$

B.  $\frac{49}{101}$

C.  $\frac{50}{101}$

D.  $\frac{51}{101}$

**Answer: D**



Watch Video Solution

78. A fair coin is tossed repeatedly. If tail appears on first four tosses, then the probability of head appearing that 2 white and 1 black balls will be drawn, is

A.  $\frac{1}{2}$

B.  $\frac{1}{32}$

C.  $\frac{31}{32}$

D.  $\frac{1}{5}$

**Answer: A**



**Watch Video Solution**

**79.** A die is thrown a fixed number of times. If probability of getting even number 3 times is same as the probability of getting even number 4 times, then probability of getting even number exactly once is  $\frac{1}{6}$  b.  $\frac{1}{9}$  c.  $\frac{5}{36}$  d.  $\frac{7}{128}$

A.  $\frac{1}{6}$

B.  $\frac{1}{9}$

C.  $\frac{5}{36}$

D.  $\frac{7}{128}$

**Answer: D**



**Watch Video Solution**