



# MATHS

## BOOKS - MAHENDRA

### PROBABILITY

#### Example

1. In a question there are 5 -options in which one is right and remaining 4 are wrong ,if one option is to be selected randomly ,what is the

probability that -

The answer will be right



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2. In a question there are 5 -options in which one is right and remaining 4 are wrong ,if one option is to be selected randomly ,what is the probability that -

The question will be wrong



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3. Find the probability of head when single coin is tossed .



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4. Find the probability of 1 head when two coins are tossed simultaneously .



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5. Find the probability of at least one head when two coins are tossed simultaneously .



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6. Find the probability of at most one head when two coins are tossed simultaneously .



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7. Find the probability of getting a multiple of 3 when one dice is thrown once .



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8. Find the probability of that number which is multiple of 2 when one dice is thrown once .



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9. Find the probability that sum on both faces is 9 when two dice are thrown simultaneously .



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10. Find the probability that sum is divisible by 4 when two dice are thrown simultaneously .



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**11.** Find probability that sum is a prime no . & less than 8 when two dice are thrown simultaneously .



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**12.** A box contains 5 red 4 green & 6 black balls .If 3 balls are drawn at random.

Find the probability that all balls are red colour .



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**13.** There are 5 red and 7 green balls in a bag. Three balls are drawn from it. Find the probability that 1 ball is red & 2 balls are green .



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**14.** There are 5 red and 7 white balls in a bag. Find the probability that none ball is red ?



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**15.** There are 5 red and 7 white balls in a bag. Find the probability that at least one ball is red .



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**16.** A bag contains 6 white balls & 4 black balls . 2 balls are randomly taken away .Find the probability that they are of the same colour .



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**17.** A box contains 4 black , 3 red & 2 yellow balls .Two balls are drawn at randomly .What is probanility that they are not of the same colour ?



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**18.** A basket contains 3 blue ,4 green & 5 red balls .If three balls are picked at random ,what is the probability that at least one is red ?



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**19.** A bag contains 7 white & 3 black balls. Two balls are drawn at random one after the other without replacement. Find the probability that balls drawn are black .



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**20.** What is the probability of each outcome, when a coin is tossed?

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

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

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

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

**Answer:**  $= \frac{1}{2}$



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**21.** From a well-shuffled pack of 52 cards, a card is drawn at random. Find the probability that the drawn card is a king or a queen.



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22. From a well-shuffled pack of 52 cards, a card is drawn at random. Find the probability that the drawn card is a king or a queen.



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## Exercise

1. In a simultaneous toss of two coins, find the probability of tails .

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

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

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

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

**Answer: B**



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2. In a simultaneous toss of two find the probability of exactly 1 tail .

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

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

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

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

**Answer: A**



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**3.** In a simultaneous toss of two coins ,find the probability of tails .

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

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

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

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

**Answer: C**



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**4.** Three coins are tossed .Find the probability of heads .

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



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

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

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

**Answer: B**



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5. Three coins are tossed .Find the probability of exactly 2 heads .

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

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

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

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

**Answer: A**



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**6.** Three coins are tossed .Find the probability of no heads .

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

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

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

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

**Answer: B**



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7. Three unbiased coins are tossed. Find the probability of getting atleast two heads.

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

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

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

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

**Answer: C**



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**8.** Four coins are tossed once .Find the probability of exactly 3 tails.

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

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

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

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

**Answer: B**



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9. Four coins are tossed once .Find the probability of exactly 2 tail .

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

B. B)  $\frac{1}{8}$

C. C)  $\frac{3}{8}$

D. D)  $\frac{5}{16}$

**Answer: C**



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**10.** In a single throw of two dice .Find the probability of doublet ?

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

B.  $\frac{5}{6}$

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

D.  $\frac{1}{18}$

**Answer: A**



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**11.** Two unbiased dice are rolled. Find the probability of getting a multiple of 2 on one die and a multiple of 3 on the other

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

B.  $\frac{25}{36}$

C.  $\frac{11}{36}$

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

**Answer: C**



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**12.** Two unbiased dice are rolled. Find the probability of getting a multiple of 2 on one die and a multiple of 3 on the other



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

B.  $\frac{25}{36}$

C.  $\frac{11}{36}$

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

**Answer: C**



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**13.** The letters of word SOCIETY are placed in a row .What is the probability that three vowels come together ?

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

B.  $\frac{2}{7}$

C.  $\frac{1}{7}$

D.  $\frac{4}{7}$

**Answer: C**



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**14.** Find the probability that in a random arrangement of letters of the words UNIVERSITY two I's do not come together.

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

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

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

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

**Answer: A**



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**15.** If letters of the word PENCIL are arranged in random order ,What is the probability that N is ALWAYS next to E ?

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

B.  $\frac{5}{6}$

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

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

**Answer: A**



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**16.** What is the probability that one card drawn at random from the pack of playing cards may be either a queen or an ace ?

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

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

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

D.  $\frac{4}{13}$

**Answer: B**



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**17.** In a class of 25 students with roll numbers 1 to 25 ,a student is picked up at random to answer a question .Find the probability that

the roll number of the selected student is either multiple of 5 or 7 .

A. A)  $\frac{6}{25}$

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

C. C)  $\frac{8}{25}$

D. D)  $\frac{7}{25}$

**Answer: C**



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**18.** A card is drawn from a pack of 52 cards .find the probability of getting spade or ace or red card.

A.  $\frac{9}{13}$

B.  $\frac{4}{13}$

C.  $\frac{11}{13}$

D.  $\frac{10}{13}$

**Answer: D**



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**19.** Find bag contains 4 white and 2 black balls  
.Another contains 3 white and 5 black balls  
.One ball is drawn from each bag .

Find the probability that both are white

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

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

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

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

**Answer: C**



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**20.** Find bag contains 4 white and 2 black balls  
.Another contains 3 white and 5 black balls  
.One ball is drawn from each bag .

Find the probability that both are black .

A.  $\frac{5}{24}$

B.  $\frac{19}{24}$

C.  $\frac{11}{24}$

D.  $\frac{1}{24}$

**Answer: A**



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**21.** A bag contains 4 white and 2 black balls  
.Another contains 3 white and 5 black balls  
.One ball is drawn from each bag .

Find the probability that one is white and one  
is black .

A.  $\frac{11}{24}$

B.  $\frac{13}{24}$

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

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

**Answer: B**



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**22.** An urn contains 25 balls numbered 1 to 25  
.Suppose an odd number is considered a  
success Two balls are drawn from the urn with  
replacement.

Find the probability of getting two successes.

A.  $\frac{169}{625}$

B.  $\frac{312}{625}$

C.  $\frac{481}{625}$

D.  $\frac{144}{625}$

**Answer: A**



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**23.** An urn contains 25 balls numbered 1 to 25 .Suppose an odd number is considered a success Two balls are drawn from the urn with

replacement.

Find the probability of getting two successes.

A.  $\frac{169}{625}$

B.  $\frac{312}{625}$

C.  $\frac{481}{625}$

D.  $\frac{144}{625}$

**Answer: B**



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**24.** An urn contains 25 balls numbered 1 to 25. Suppose an odd number is considered a success. Two balls are drawn from the urn with replacement.

Find the probability of getting at least one success.

A.  $\frac{169}{625}$

B.  $\frac{312}{625}$

C.  $\frac{481}{625}$

D.  $\frac{144}{625}$

**Answer: C**



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**25.** An urn contains 25 balls numbered 1 to 25 .Suppose an odd number is considered a success Two balls are drawn from the urn with replacement.

Find the probability of getting no success .

A.  $\frac{169}{625}$

B.  $\frac{312}{625}$

C.  $\frac{481}{625}$

D.  $\frac{144}{625}$

**Answer: D**



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**26.** From a pack of cards two are drawn the first being replaced before the second is drawn Find the probability that the first is a diamond and the second is a king .



A.  $\frac{3}{52}$

B.  $\frac{1}{26}$

C.  $\frac{1}{52}$

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

**Answer: C**



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**27.** A husband and wife appear in an interview for two vacancies in the same post .The probability of husband 's selection is  $\frac{1}{7}$  and

that of wife's  $\frac{1}{5}$

What is the probability that only one of them will be selected ?

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

B.  $\frac{1}{35}$

C.  $\frac{24}{35}$

D.  $\frac{11}{35}$

**Answer: A**



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**28.** A husband and wife appear in an interview for two vacancies in the same post .The probability of husband 's selection is  $\frac{1}{7}$  and that of wife's  $\frac{1}{5}$

What is the probability that both of them will be selected ?

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

B.  $\frac{1}{35}$

C.  $\frac{24}{35}$

D.  $\frac{11}{35}$

**Answer: B**



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**29.** A husband and wife appear in an interview for two vacancies in the same post .The probability of husband 's selection is  $\frac{1}{7}$  and that of wife's  $\frac{1}{5}$

What is the probability that none of them will be selected ?

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

B.  $\frac{1}{35}$

C.  $\frac{24}{35}$

D.  $\frac{11}{35}$

**Answer: C**



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**30.** A husband and wife appear in an interview for two vacancies in the same post .The probability of husband 's selection is  $\frac{1}{7}$  and that of wife's  $\frac{1}{5}$

What is the probability that at least one of them will be selected ?

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

B.  $\frac{1}{35}$

C.  $\frac{24}{35}$

D.  $\frac{11}{35}$

**Answer: D**



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