

PROBABILITY - APTITUDE

QUESTIONS AND ANSWERS

This is aptitude questions and answers section on Probability with explanation for various interview, competitive examinations and entrance tests.

The probability that a number selected at random from the first 50 natural numbers is a composite number is -

17/25

Explanation:

The number of exhaustive events = ${}^{50}C_1 = 50$.

We have 15 primes from 1 to 50.

Number of favourable cases are 34.

Required probability = $34/50 = 17/25$.

A coin is tossed live times. What is the probability that there is at the least one tail?

31/32

Explanation:

Let P(T) be the probability of getting least one tail when the coin is tossed five times.

= There is not even a single tail.

i.e. all the outcomes are heads.

= $1/32$; P(T) = $1 - 1/32 = 31/32$

If a number is chosen at random from the set {1, 2, 3, ..., 100}, then the probability that the chosen number is a perfect cube is -

1/25

Explanation:

We have 1, 8, 27 and 64 as perfect cubes from 1 to 100.

Thus, the probability of picking a perfect cube is

$4/100 = 1/25$.

If two dice are thrown together, the probability of getting an even number on one die and an odd number on the other is -

1/2

Explanation:

The number of exhaustive outcomes is 36.

Let E be the event of getting an even number on one die and an odd number on the other. Let the event of getting either both even or both odd then = $18/36 = 1/2$

P(E) = $1 - 1/2 = 1/2$.

Three 6 faced dice are thrown together. The probability that all the three show the same number on them is

1/36

Explanation:

It all 3 numbers have to be same basically we want triplets. 111, 222, 333, 444, 555 and 666. Those are six in number. Further the three dice can fall in $6 * 6 * 6 = 216$ ways.

Hence the probability is $6/216 = 1/36$

Three 6 faced dice are thrown together. The probability that no two dice show the same number on them is -

5/9

No two dice show same number would mean all the three faces should show different numbers.

The first can fall in any one of the six ways. The second die can show a different number in five ways.

The third should show a number that is different from the first and second. This can happen in four ways.

Thus $6 * 5 * 4 = 120$ favourable cases.

The total cases are $6 * 6 * 6 = 216$.

The probability = $120/216 = 5/9$.

A box contains nine bulbs out of which 4 are defective. If four bulbs are chosen at random, find the probability that atleast one bulb is good.

125/126

Explanation:

Required probability = $1 - 1/126 = 125/126$

A box contains 3 blue marbles, 4 red, 6 green marbles and 2 yellow marbles. If four marbles are picked at random, what is the probability that none is blue?

33/91

Explanation:

Given that there are three blue marbles, four red marbles, six green marbles and two yellow

marbles. When four marbles are picked at random, then the probability that none is blue is = ${}^{12}C_4 / {}^{15}C_4$
= $(12 * 11 * 10 * 9) / (15 * 14 * 13 * 12) = 33/91$

A bag contains five white and four red balls. Two balls are picked at random from the bag. What is the probability that they both are different color?

5/9

Two balls can be picked from nine balls in 9C_2 ways.

We select one white ball and one red ball from five white balls and four red balls. This can be done ${}^5C_1 * {}^4C_1$ ways.

The required probability = $(5 * 4) / {}^9C_2 = 20/36 = 5/9$

What is the probability that a leap year has 53 Sundays and 52 Mondays?

1/7

Explanation:

A leap year has 52 weeks and two days

Total number of cases = 7

Number of favourable cases = 1

i.e., {Saturday, Sunday}

Required Probability = $1/7$