

EXERCISE 3.4

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1. Tell whether the following is certain to happen, impossible, can happen but not certain.

(i) You are older today than yesterday.

Solution:-

It is certain to happen.

(ii) A tossed coin will land heads up.

Solution:-

It can happen but not certain.

(iii) A die when tossed shall land up with 8 on top.

Solution:-

It is impossible. Because, there are only six faces on a die is marked as 1, 2, 3, 4, 5, and 6 on it.

(iv) The next traffic light seen will be green.

Solution:-

It can happen but not certain.

(v) Tomorrow will be a cloudy day.

Solution:-

It can happen but not certain.

2. There are 6 marbles in a box with numbers from 1 to 6 marked on each of them.

(i) What is the probability of drawing a marble with number 2?

Solution:-

From the question, it is given that

There are 6 marbles in the box with numbers from 1 to 6 are marked.

Probability of drawing a marble with number 2 = $\frac{\text{Number of favourable outcomes}}{\text{Number of possible outcomes}}$
= $(1/6)$

(ii) What is the probability of drawing a marble with number 5?

Solution:-

From the question, it is given that

There are 6 marbles in the box with numbers from 1 to 6 are marked.

$$\begin{aligned}\text{Probability of drawing a marble with number 5} &= \frac{\text{Number of favourable outcomes}}{\text{Number of possible outcomes}} \\ &= \frac{1}{6}\end{aligned}$$

3. A coin is flipped to decide which team starts the game. What is the probability that your team will start?

Solution:-

A coin has two faces one is Head and other one is Tail.

Now, one team can choose either Head or Tail.

$$\begin{aligned}\text{Probability of our team starts first} &= \frac{\text{Number of favourable outcomes}}{\text{Number of possible outcomes}} \\ &= \frac{1}{2}\end{aligned}$$