Question 1.

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

(i) You are older today than yesterday.

(ii) Two hundred people can sit in a Maruti car.

(iii) A tossed coin will land heads up.

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

(v) India will win the next test series.

(vi) Tomorrow will be a cloudy day.

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

Solution:

(i) Certain to happen.

(ii) Impossible, as two hundred can't sit in a car.

(iii) It can happen but not certain.

(iv) Impossible as a die has 1 to 6 marks.

(v) It can happen but not certain.

(vi) It can happen but not certain.

(vii) It can happen but not certain.

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Question 2.

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

Solution:

A coin is flipped to decide which team starts the game (A coin has two sides)

Possibility (P) = $\frac{1}{2}$

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Question 3.

There are 6 marbles in a box with numbers 1 to 6 marked on them.

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

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

Solution:

Number of total marbles with number 1 to 6

(i) Probability of drawing marble of getting number 5 = $\frac{1}{6}$

(ii) Probability of drawing a marble of getting number 2 = $\frac{1}{6}$.

Question 4.

A die is tossed once. Find the probability of getting

(i) a number less than 3

(ii) a prime number

(iii) a number greater than 2

Solution:

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Solution:

A die is tossed once

Total number of favourable outcome = 6

(i) Probability of getting a number less than three

(1, 2) = $\frac{2}{6} = \frac{1}{3}$

(ii) Probability of getting a prime number (2, 3, 5) = $\frac{3}{6} = \frac{1}{2}$

(iii) Probability of getting a number greater than 2

(3, 4, 5, 6) = $\frac{4}{6} = \frac{2}{3}$

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Question 5.

A box contains 3 defective mangoes and 21 good mangoes. One mango is drawn from the box at random. Find the probability of getting

(i) a defective mango

(ii) a good mango

Solution:

In a box, there are 3 defective mangoes and 21 good mangoes.

Total mangoes = 3 + 21 = 24

One mango is drawn at random, then

(i) Probability of a defective mango = $\frac{3}{24} = \frac{1}{8}$

(ii) Probability of a good mango = $\frac{21}{24} = \frac{7}{8}$

Question 6.

A card is drawn from a well-shuffled pack of 52 playing cards. Find the probability of getting

(i) a red card

(ii) a king

(iii) a card of spades

Solution:

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Solution:

Number of playing cards = 52

In which 13 cards are of each suit and number suit is 4.

There are two colour: Red and Black.

Now one card is drawn at random:

(i) Probability of being a red card = $\frac{26}{52} = \frac{1}{2}$

(ii) Probability of being a king = $\frac{4}{52} = \frac{1}{13}$ (There are 4 cards of king)

(iii) Probability of being a card of spades = $\frac{13}{52} = \frac{1}{4}$

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