

Answer on Question #59817 – Math – Statistics and Probability

Question

Find the probability for each of the following events:

(i) An odd number appears in a single toss of a fair die

(ii) The sum appears in a single toss of a pair of fair dice.

(iii) At least one head appears in three tosses of a fair coin.

(iv) A king, ace, jack of clubs or queen of diamonds appear in drawing a single card from a well shuffled ordinary deck of 52 cards.

Solution

(i) Probability of event 'An odd number appears in a single toss of a fair die' is

$$P = 2/6 = 1/3.$$

(ii) The statement 'The sum appears in a single toss of a pair of fair dice' is confusing Which sum is in question?

(iii) Probability of event 'At least one head appears in three tosses of a fair coin' is

$$P(\text{'At least one head appears in three tosses of fair dice'}) = 1 - P(\text{'No head appears in three tosses of fair dice'}) = 1 - 0.5^3 = 0.875.$$

(iv) Probability of event 'A king, ace, jack of clubs or queen of diamonds appear in drawing a single card from a well shuffled ordinary deck of 52 cards' is

$$P = (4 + 4 + 1 + 1)/52 = 10/52 = 5/26 \approx 0.1923.$$

Answer: **(i)** $1/3$; **(ii)** - ; **(iii)** $1 - 0.5^3$; **(iv)** $5/26$.