

Probability Formative assessment

Link type comprehension

Question 1

Anil bags contain 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be

- (i) Red
- (ii) White
- (iii) Not green

Solution

a) Total possible outcome is $=5+8+4=17$

No of outcome favoring event (red) $=4$

So $P(\text{red})=4/17$

b) Total possible outcome is $=5+8+4=17$

No of outcome favoring event (white) $=8$

So $P(\text{red})=8/17$

c) Total possible outcome is $=5+8+4=17$

No of outcome favoring event (Not green) $=8+5=13$

So $P(\text{not green})=13/17$

True or False statement

Question 2

A piggy bank contains two hundred 50p coins, fifty Re 1 coins, twenty Rs 5 coins and ten Rs 10 coins. If it is equally likely that one of the coins will fall out when the bank is turned Upside down

- a) The probability that the coin will be 50p is $5/7$
- b) Total possible outcome in any case is 280
- c) The probability that coin will not be Rs5 coin is $13/14$
- d) The events getting 50 paisa coin, 1 Rs coin, Rs 5 coin and Rs 10 coin are elementary event
- e) The probability of getting Rs 20 coin is 1
- f) The probability of getting coin less than Rs 20 is 1
- g) The probability of getting Rs 1 coin is $5/28$

Solution

a) True

Total outcome $=280$

Favorable outcome $=200$

So $p=200/280=5/7$

- b) True
- c) True
Favorable outcome=260
 $P=260/280=13/14$
- d) False as the favorable outcome are more than 1
- e) False it is 0 as It is a impossible event
- f) True
- g) True
Favorable outcome=50
 $P=50/280=5/28$

Multiple choice Questions

Question 3

The probability of the events lies between

- a) $-1 \leq p \leq 1$
- b) $0 \leq p \leq 1$
- c) $-1 \leq p \leq 0$
- d) $-1 < p \leq 1$

Solution (b)

Question 4

A bag contains 40 balls out of which some are red, some are blue and remaining are black. If the probability of drawing a red ball is $11/20$ and that of blue ball is $1/5$, The number of black ball is

- a) 11
- b) 10
- c) 5
- d) None of these

Solution (b)

$P(\text{Red})=11/20 \Rightarrow$ Number of red ball= $40 \times 11/20=22$

$P(\text{Blue})=1/5 \Rightarrow$ Number of blue ball= $40 \times 1/5=8$

Number of black ball= $40 - (\text{Number of red and blue})=10$

Question 5

An unbiased die is thrown. Which of the following is false

- a) $P(\text{ odd number}) = 1/2$
- b) $P(\text{ even number}) = 1/2$
- c) $P(\text{ square number}) = 1/3$
- d) None of these

Solution (d)

Question 6

Which of the following cannot be the probability of an event?

- a) 0
- b) 1
- c) $3/2$
- d) $2/3$

Solution (c)

$$0 \leq p \leq 1$$

Question 7

Probability of an event E + Probability of the event 'not E'

- a) 0
- b) 1
- c) Insufficient data
- d) None of these

Solution (b)

Match the column

One card is drawn from a well-shuffled deck of 52 cards

| | |
|--|--------|
| probability of getting of king of red color | $7/13$ |
| probability of getting A black face card | $1/52$ |
| probability of getting the jack of hearts | $1/2$ |
| probability of getting the queen of diamonds | $1/26$ |
| probability of getting either black or a queen | 1 |