SELF ASSESSMENT TEST SOLUTIONS

1. Total number of possible outcomes = 36

   Favourable outcomes are = (1, 1); (1, 2); (1, 3); (2, 1); (2, 2); (3, 1) i.e. 6

   P (sum of numbers less than five) = $\dfrac{6}{36} = \dfrac{1}{6}$

2. P (red card or a king) = $\dfrac{28}{52} = \dfrac{7}{13}$

   P (black face card)   = $\dfrac{6}{52} = \dfrac{3}{26}$

3. Favourable out comes are (5, 5), (5, 6), (6, 5), (6, 6)

   ∴ Required probability = $\dfrac{4}{36} = \dfrac{1}{9}$

4. (i) Vowels are a, e, i, o, u.

   P(a vowel) = $\dfrac{5}{26}$

   (ii) Number of consonants are

   26 - 5 = 21

   P(a consonant) = $\dfrac{21}{26}$

5. When the two coins are tossed, the probability are HH, HT, TH, TT.

   ∴ total no. of outcomes = 4

   No. of favourable outcomes = 3 (HT, TH, TT)

   ∴ P (atleast one tail) = $\dfrac{3}{4}$

6. Total number of cards = 25

   The numbers divisible by 2 and 3 are : 6, 12, 18, 24.

   P(divisible by 2 and 3) = $\dfrac{4}{25}$

7. Total number of possible outcomes = 90

   (i) P (a two digit number) = $\dfrac{81}{90} = \dfrac{9}{10}$

   (ii) P (a perfect square number) = $\dfrac{9}{90} = \dfrac{1}{10}$

   (iii) P (a prime number less than 15) = $\dfrac{6}{90} = \dfrac{1}{15}$

8. Total number of outcomes = 8 Favourable number of outcomes

   (HHH, TTT) = 2

   Prob. (getting success) = $\dfrac{2}{8} = \dfrac{1}{4}$

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$\therefore$ Prob. (losing the game) = $1 - \dfrac{1}{4} = \dfrac{3}{4}$

9. Total number of outcomes = 6.

(i) Prob. (getting a prime number (2, 3, 5)) = $\dfrac{3}{6} = \dfrac{1}{2}$

(ii) Prob. (getting a number between 2 and 6 (3, 4, 5)) = $\dfrac{3}{6} = \dfrac{1}{2}$

10. Total number of outcomes = 36

Favourable outcomes are

(1, 4), (4, 1), (2, 3) & (3, 2) i.e. 4

P(sum 5) = $\dfrac{4}{36} = \dfrac{1}{9}$