

FlexiPrep

NCERT Class 11-Math's: Exemplar Chapter – 16 Probability Part 8 (For CBSE, ICSE, IAS, NET, NRA 2022)

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Question 11:

The accompanying Venn diagram shows three events, A, B, and C, and also the probabilities of the various intersections (for instance, $P(A \cap B) = .07$). Determine

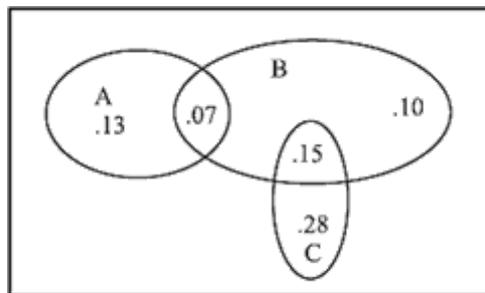


Fig. 16.2

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- (a) $P(A)$
- (b) $P(B \cap \bar{C})$
- (c) $P(A \cup B)$
- (d) $P(A \cap \bar{B})$
- (e) $P(B \cap C)$
- (f) Probability of exactly one of the three occurs.

Answer:

- (a) 0.20
- (b) 0.17

- (c) 0.45
- (d) 0.13
- (e) 0.15
- (f) 0.51

Long Answer Type

Question 12:

One urn contains two black balls (labelled B_1 and B_2) and one white ball. A second urn contains one black ball and two white balls (labelled W_1 and W_2). Suppose the following experiment is performed. One of the two urns is chosen at random. Next a ball is randomly chosen from the urn. Then a second ball is chosen at random from the same urn without replacing the first ball.

- (a) Write the sample space showing all possible outcomes
- (b) What is the probability that two black balls are chosen?
- (c) What is the probability that two balls of opposite colour are chosen?

Answer:

(a) $S = B_1 B_2, B_1 W, B_2 B_1, B_2 W, WB_1, WB_2, BW_1, BW_2, W_1 B, W_1 W_2, W_2 B, W_2 W_1$

(b) $\frac{1}{6}$

(c) $\frac{2}{3}$

Question 13:

A bag contains 8 red and 5 white balls. Three balls are drawn at random. Find the Probability that

- (a) All the three balls are white
- (b) All the three balls are red
- (c) One ball is red and two balls are white

Answer:

(a) $\frac{5}{143}$

(b) $\frac{28}{143}$

(c) $\frac{40}{143}$

Question 14:

If the letters of the word ASSASSINATION are arranged at random. Find the Probability that

- (a) Four S's come consecutively in the word
- (b) Two I's and two N's come together
- (c) All A's are not coming together
- (d) No two A's are coming together.

Answer:

(a) $\frac{1}{143}$

(b) $\frac{2}{143}$

(c) $\frac{25}{26}$

(d) $\frac{15}{26}$

Question 15:

A card is drawn from a deck of 52 cards. Find the probability of getting a king or a heart or a red card.

Answer:

$$\frac{7}{13}$$

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