

Probability of Compound Events Assignment

Solve problems involving probability of compound events.

1. What is the probability of drawing a jack and a black card from 52 card deck of cards?
2. What is the probability of getting an even number and a sum of 6 in rolling a pair of dice?
3. What is a probability of drawing a red card or a Jack from a 52 card deck of cards?
4. What is the probability of getting an odd number or a sum greater than 10 in rolling a pair of dice?
5. What is the probability of getting an Ace or an even number when drawing a card from 52 card deck of cards?

The probability that Lorna will win a race is 60% and that Belinda will win another race is 40%. Find the probability that:

6. Lorna and Belinda will win their respective races
7. Lorna or Belinda wins
8. Lorna Wins and Belinda loses

In a certain community 40 out of 1200 males and 70 out of 1400 females are unemployed.

9. What is the probability that the person selected is a female unemployed?
10. What is the probability that the person selected is a male or unemployed?

In a group of 100 students, 35 can speak Korean, 45 can speak Chinese and 10 can speak both languages. If a student is selected random, what is the probability of selecting a student who

11. Can speak Chinese or Korean?
12. Can speak Chinese and Korean?

Name: _____ Period: _____ Date: _____

Probability of Compound Events Assignment

In a 52 deck of cards, what is the probability of

13. Selecting a queen or a card greater than 5 but less than 10?

14. Selecting a spade and less than 6?

The contingency table below shows the distribution of students according to gender and field of specialization

Gender	HRM (H)	Tourism (T)	Psychology (P)	Total
Male (M)	15	10	4	
Female (F)	11	9	2	
Total				

If a student is selected at random, find

15. $P(H \cup T)$

16. $P(M \cup F)$

17. $P(M \cup H)$

18. $P(F \cup T)$

19. $P(M \cap P)$

20. $P(F \cap H)$

Probability of Compound Events Assignment

Answer:

Solve problems involving probability of compound events.

1. What is the probability of drawing a jack and a black card in 52 deck of card?

$$P(E_1 \cap E_2) = 2/52 \text{ or } 1/26$$

2. What is the probability of getting an even number and a sum of 6 in rolling a pair of dice?

$$P(E_1 \cap E_2) = 1/36$$

3. What is a probability of drawing a red card or a Jack 52 deck of card?

$$P(E_1 \cup E_2) = 13/52 + 4/52 - 2/52 = 15/52$$

4. What is the probability of getting an odd number or a sum greater than 10 in rolling a pair of dice?

$$P(E_1 \cup E_2) = 9/36 + 3/36 - 2/36 = 10/36$$

5. What is the probability of getting an Ace or an even numbers in drawing a card in 52 deck of card?

$$P(E_1 \cup E_2) = 4/52 + 20/52 = 24/52 \text{ or } 6/13$$

The probability that Lorna will win a race is 60% and that Belinda will win another race is 40%. Find the probability that:

6. Lorna and Belinda will win their respective races

$$P(E_1 \cap E_2) = (0.4)(0.6) = 0.24$$

7. Lorna or Belinda wins

$$P(E_1 \cup E_2) = (0.6) + (0.4) = 1$$

8. Lorna Wins and Belinda loses

$$P(E_1 \cap E_2) = (0.6)(0.6) = 0.36$$

In a certain community 40 out of 1200 males and 70 out of 1400 females are unemployed.

9. What is the probability that the person selected is a female unemployed?

$$P(E_1 \cap E_2) = 70/2600 \text{ or } 7/260$$

10. What is the probability that the person selected is a male or unemployed?

$$P(E_1 \cup E_2) = 1200/2600 + 110/2600 - 40/2600 = 1270/2600 \text{ or } 127/260$$

In a group of 100 students, 35 can speak Korean, 45 can speak Chinese and 10 can speak both languages. If a student is selected random, what is the probability of selecting a student who

11. Can speak Chinese or Korean?

$$P(E_1 \cup E_2) = 35/100 + 45/100 - 10/100 = 70/100 \text{ or } 7/10$$

12. Can speak Chinese and Korean?

$$P(E_1 \cap E_2) = 10/100$$

Probability of Compound Events Assignment

In a 52 card deck of cards, what is the probability of

13. Selecting a queen or a card greater than 5 but less than 10?

$$P(E_1 \cup E_2) = 4/52 + 16/52 = 20/52 \text{ or } 5/13$$

14. Selecting a spade and less than 6?

$$P(E_1 \cap E_2) = (13/52)(20/52) = 5/52$$

The contingency table below shows the distribution of students according to gender and field of specialization

Gender	HRM (H)	Tourism (T)	Psychology (P)	Total
Male (M)	15	10	4	29
Female (F)	11	9	2	22
Total	26	19	8	51

If a student is selected at random, find

15. $P(H \cup T)$

$$P(H \cup T) = (26/51) + (19/51) = 45/51$$

16. $P(M \cup F)$

$$P(M \cup F) = (29/51) + (22/51) = 1$$

17. $P(M \cup H)$

$$P(M \cup H) = (29/51) + (26/51) - (15/51) = 40/51$$

18. $P(F \cup T)$

$$P(F \cup T) = (22/51) + (19/51) - (9/51) = 32/51$$

19. $P(M \cap P)$

$$P(M \cap P) = 4/51$$

20. $P(F \cap H)$

$$P(F \cap H) = 11/51$$