

Name: _____ Period: _____ Date: _____

Probability of Compound Events Bell Work

Solve problems involving probability of compound events.

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

1. A red card and face card?
2. A black card or a number less than 10?

3. A jack or a number greater than 3 but less than 10?

The compositions of students enrolled in statistics class are 35 HRM students, 5 Management students and 1 Political Science student. What is the probability of selecting

4. HRM or management student?
5. Management or political science student?

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The contingency table below shows the distribution of employees according to sales performance and potential for advancement.

Sales Performance	Low	High	Total
Below Average	35	15	
Average	35	105	
Above Average	40	10	
Total			

6. What is the probability an employee selected at random will have average sales performance and high potential for advancement?

7. What is the probability an employee selected at random will have an average and low potential for advancement?

8. What is the probability an employee selected at random will have below average sales performance or high potential for advancement?

9. What is the probability an employee selected at random will have above average sales performance or high potential for advancement?

10. What is the probability an employee selected at random will have above average or average sales performance.

Probability of Compound Events Bell Work

Answer:

Solve problems involving probability of compound events.

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

1. A red card and face card?

$$P(E_1 \cap E_2) = (26/52)(12/52) = 6/52 \text{ or } 3/26$$

2. A black card or a number less than 10?

$$P(E_1 \cup E_2) = 26/52 + 36/52 - 18/52 = 34/52 \text{ or } 17/26$$

3. A jack or a number greater than 3 but less than 10?

$$P(E_1 \cup E_2) = 4/52 + 24/52 = 28/52 \text{ or } 7/13$$

The compositions of students enrolled in statistics class are 35 HRM students, 5 Management students and 1 Political Science student. What is the probability of selecting

4. HRM or management student?

$$P(E_1 \cup E_2) = 35/41 + 5/41 = 40/41$$

5. Management or political science student?

$$P(E_1 \cup E_2) = 1/41 + 5/41 = 6/41$$

The contingency table below shows the distribution of employees according to sales performance and potential for advancement.

Sales Performance	Low	High	Total
Below Average	35	15	50
Average	35	105	140
Above Average	40	10	50
Total	110	130	240

6. What is the probability an employee selected at random will have average sales performance and high potential for advancement?

$$P(E_1 \cap E_2) = 105/240$$

7. What is the probability an employee selected at random will have an average and low potential for advancement?

$$P(E_1 \cap E_2) = 35/240$$

8. What is the probability an employee selected at random will have below average sales performance or high potential for advancement?

$$P(E_1 \cup E_2) = 50/240 + 130/240 - 15/130 = 165/240 \text{ or } 11/16$$

9. What is the probability an employee selected at random will have above average sales performance or high potential for advancement?

$$P(E_1 \cup E_2) = 50/240 + 130/240 - 10/130 = 170/240 \text{ or } 17/24$$

10. 9. What is the probability an employee selected at random will have above average or average sales performance.

$$P(E_1 \cup E_2) = 50/240 + 140/240 = 190/240 \text{ or } 19/24$$