

Conditional Probability Worksheet 3 - Answers

Use the following probabilities to answer questions 1-5: $P(A) = 0.25$, $P(B) = 0.15$, $P(C) = 0.30$, $P(D) = 0.2$, $P(E) = 0.40$.

1. If $P(A \text{ and } E) = 0.10$, are events A and E independent?

Yes.

2. If $P(A \text{ and } B) = 0.00$, are events A and B independent?

No.

3. If $P(A \text{ and } C) = 0.15$, are events A and C independent?

No.

4. If $P(B \text{ and } D) = 0.03$, are events B and D independent?

Yes.

5. If $P(C \text{ and } E) = 0.20$, are events C and E independent?

No.

For questions 6-10, determine the $P(A \text{ and } B)$ that would show that events A and B are independent events.

6. $P(A) = 0.50$, $P(B) = 0.50$.

$$P(A \text{ and } B) = 0.25.$$

7. $P(A) = 0.25$, $P(B) = 0.15$.

$$P(A \text{ and } B) = 0.0375.$$

8. $P(A) = 0.17$, $P(B) = 0.3$.

$$P(A \text{ and } B) = 0.051.$$

9. $P(A) = 1.00$, $P(B) = 0.50$.

$$P(A \text{ and } B) = 0.50.$$

10. $P(A) = 0.9$, $P(B) = 0.2$.

$$P(A \text{ and } B) = 0.18.$$