

Probability Quiz

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|--|-----------------|------------------------|
| Due No due date | Points 2 | Questions 2 |
| Available after Mar 10 at 12:55 | | Time Limit None |
| Allowed Attempts Unlimited | | |

Take the Quiz Again

Attempt History

| | Attempt | Time | Score |
|--------|---------------------------|------------|------------|
| LATEST | Attempt 1 | 12 minutes | 2 out of 2 |

Submitted Mar 23 at 19:09

Question 1

1 / 1 pts

What is $P(A, B)$ when A and B are disjoint events?

☐ $P(B)$

☐ $P(A) + P(B)$

☐ $P(A) \times P(B)$

☒ 0

Correct!

That is correct. $A \cap B = \emptyset$, so the joint probability would be zero.

Question 2

1 / 1 pts

The completion of a construction project may be delayed due to rain. The probability of having rain is 0.6, the probability of completing the project on-time when there is no rain would be 0.85, and the probability of completing the project on-time when there is rain would be 0.35. Calculate the probability of completing the project on-time.

☐ 0.21

☐ 0.35

☐ 0.85

☒ 0.55

Correct!

A: Completing the project on-time, B: Having rain, B': No rain.

Using marginalisation, we can calculate the probability of A considering all possibilities of rain including B and B':

$$P(A) = P(A, B) + P(A, B') = P(B) \times P(A|B) + P(B') \times P(A|B') = 0.6 \times 0.35 + 0.4 \times 0.85 = 0.55$$