Exercise: Independence of two events - II

(1/1 point)

Let A be an event, a subset of the sample space Ω. Are A and Ω independent?

Yes, they are independent ✔ **Answer:** Yes, they are independent

Answer:
Yes, because $\mathbf{P}(A \cap \Omega) = \mathbf{P}(A) = \mathbf{P}(A) \cdot 1 = \mathbf{P}(A) \cdot \mathbf{P}(\Omega)$.

Intuitively, $\mathbf{P}(A)$ represents our beliefs about the likelihood that A will occur. If we are told that Ω occurred, this does not give us any new information; we already knew that Ω is certain to occur. For this reason, $\mathbf{P}(A \mid \Omega) = \mathbf{P}(A)$.

You have used 1 of 1 submissions