

# Quiz for Week 2

⚠ This is a preview of the published version of the quiz

Started: 2 Oct at 23:47

## Quiz instructions

Quiz time is from 17.15 to 18.00 of August 23, 2023.

### Question 1

1 pts

Let  $A, B, C$  be events of the sample space  $S$ . Suppose  $P(A) = 0.25$ ,  $P(B) = 0.35$ , and  $P(C) = 0.4$ . Which of the following is INCORRECT?

- ☐  $P(A \cup B) \leq 0.6$
- ☐  $P(A \cap C) \leq 0.25$
- ☒  $P(A) + P(B) + P(C) = 1$ . So  $A \cup B \cup C = S$ .
- ☐ All of the above options are correct.

### Question 2

1 pts

Let  $A, B$  be events of a sample space.  $P(A) = 0.3$ ;  $P(B) = 0.45$ ;  $P(B|A) = 0.5$ . Then  $P(A|B) = ?$

- ☒  $1/3$
- ☐  $2/3$
- ☐  $1/2$
- ☐ Not computable based on the available information.

### Question 3

1 pts

Let  $A$  and  $B$  be events, such that  $P(A \cup B) = P(A) + P(B)$ . Which of the following statement must be TRUE?

- ☒  $P(A \cap B) = P(\emptyset)$ .
- ☐ It is impossible that  $A = B$ .
- ☐ If  $A \subset B$ , we may have  $P(B) = 0.1$ .
- ☐ All of the above options are incorrect.

Saved at 23:48

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