



## MITx: 6.041x Introduction to Probability - The Science of Uncertainty



Bookmarks

▶ Unit 0:  
Overview

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Survey

▼ Unit 1:  
Probability  
models and  
axioms

**Lec. 1: Probability  
models and  
axioms**

Exercises 1 due Feb  
10, 2016 at 23:59 UTC

Mathematical  
background: Sets;  
sequences, limits,  
and series;  
(un)countable sets.

Solved problems

**Problem Set 1**

Problem Set 1 due Feb  
10, 2016 at 23:59 UTC

Unit 1: Probability models and axioms > Lec. 1: Probability models and axioms > Lec  
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## EXERCISE: AXIOMS (1/1 point)

Let  $A$  and  $B$  be events, with  $\mathbf{P}(A) = 0.6$  and  $\mathbf{P}(B) = 0.7$ . Can these two events be disjoint?



Answer: No

Answer:

If the two events were disjoint, the additivity axiom would imply that  $\mathbf{P}(A \cup B) = \mathbf{P}(A) + \mathbf{P}(B) = 1.3 > 1$ , which would contradict the normalization axiom.

*You have used 1 of 1 submissions*

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