

On Tuesday, February 16th at 6:00AM EST, UTC-5, we will be conducting a brief database maintenance. The event should last about 5 minutes.



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



Bookmarks



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Problem Set 3 due Feb 24, 2016 at 23:59 UTC

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Problem 1: Alice and Bob's card game

(2/2 points)

Alice plays the following game with Bob. First, Alice randomly chooses a set of 4 cards out of a 52-card deck, memorizes them, and places them back into the deck. (Any set of 4 cards is equally likely.) Then, Bob randomly chooses 8 cards out of the same deck. (Any set of 8 cards is equally likely.) Assume that the choice of 4 cards by Alice and the choice of 8 cards by Bob are independent.

What is the probability that all 4 cards Alice chose were also among the 8 cards chosen by Bob?

☒ $\frac{\binom{48}{4}}{\binom{52}{8}}$ ✓

☐ $\frac{\binom{48}{4}}{\binom{52}{4}}$

☐ $\frac{\binom{48}{8}}{\binom{52}{8}}$

☐ $\frac{\binom{48}{8}}{\binom{52}{4}}$

You have used 1 of 2 submissions

Printable problem set available here .

DISCUSSION

Click "Show Discussion" below to see discussions on this problem.

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