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

- Unit 0: Overview
- Entrance Survey
- Unit 1: Probability models and axioms
- Unit 2: Conditioning and independence
- **Unit 3: Counting**

Lec. 4: Counting
Exercises 4 due Feb 24, 2016 at 23:59 UT

Solved problems

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

Unit 3: Counting > Problem Set 3 > Problem 2 Vertical: 13 cards in a deck

Bookmark

Problem 2: 13 cards in a deck

(4/4 points)

A player is randomly dealt a sequence of 13 cards from a standard 52-card deck. All sequences of 13 cards are equally likely. In an equivalent model, the cards are chosen and dealt one at a time. When choosing a card, the dealer is equally likely to pick any of the cards that remain in the deck.

1. What is the probability the 13th card dealt is a King? **Note:** Your answer should be a number. Do not enter '!' or combinations in your answer.

   0.07692308 ✔

2. Find the probability of the event that the 13th card dealt is the first King dealt. Identify the correct expression.

   - $13 \cdot \left| \frac{4\binom{48}{12}}{\binom{52}{13}} \right|$
   - $13 \cdot \left| \frac{\binom{48}{12}}{\binom{52}{13}} \right|$
   - ✔ $\frac{1}{13} \cdot \left| \frac{4\binom{48}{12}}{\binom{52}{13}} \right|$
   - $\frac{1}{13} \cdot \left| \frac{\binom{48}{13}}{\binom{52}{13}} \right|$

You have used 2 of 2 submissions

DISCUSSION

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