



Bookmarks

## ► Introduction

## ▼ 1. Probability and Inference

## Introduction to Probability

Exercises due Sep 21, 2016 at 21:00 UTC

## Probability Spaces and Events

Exercises due Sep 21, 2016 at 21:00 UTC

## Random Variables

Exercises due Sep 21, 2016 at 21:00 UTC

## Jointly Distributed Random Variables

Exercises due Sep 28, 2016 at 21:00 UTC

## Conditioning on Events

Exercises due Sep 28, 2016 at 21:00 UTC

## Homework 1

Homework due Sep 28, 2016 at 21:00 UTC

## 1. Probability and Inference &gt; Conditioning on Events &gt; Practice Problem: Bayes' Theorem and Total Probability



Bookmark

## PRACTICE PROBLEM: BAYES' THEOREM AND TOTAL PROBABILITY

**This problem gives practice for using Bayes' Theorem and the Law of Total Probability. The solution is provided on the next page. Please try to solve it before looking at the solution. Since this is a practice problem, you do not have to submit anything.**

Your problem set is due in 15 minutes! It's in one of your drawers, but they are messy, and you're not sure which one it's in.

The probability that the problem set is in drawer  $k$  is  $d_k$ . If drawer  $k$  has the problem set and you search there, you have probability  $p_k$  of finding it. There are a total of  $m$  drawers.

Suppose you search drawer  $i$  and do not find the problem set.

- (a) Find the probability that the paper is in drawer  $j$ , where  $j \neq i$ .
- (b) Find the probability that the paper is in drawer  $i$ .

© All Rights Reserved



© 2016 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open EdX logos are registered trademarks or trademarks of edX Inc.

POWERED BY  
OPENedX<sup>®</sup>

