



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



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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 > Problem Set 1 > Problem 3 Vertical: Three tosses of a fair coin



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### PROBLEM 3: THREE TOSSES OF A FAIR COIN (4/4 points)

You flip a fair coin (i.e., the probability of obtaining Heads is  $1/2$ ) three times. Assume that all sequences of coin flip results, of length 3, are equally likely. Determine the probability of each of the following events.

1.  $\{HHH\}$ : 3 Heads



2.  $\{HTH\}$ : the sequence Heads, Tails, Heads



3. Any sequence with 2 Heads and 1 Tails (in any order):



4. Any sequence in which the number of Heads is greater than or equal to the number of Tails:



*You have used 1 of 2 submissions*

### DISCUSSION

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