

MITx: 14.310x Data Analysis for Social Scientists

<u>Hel</u>j

**Bookmarks** 

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### The Bernoulli Distribution - Quiz

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### **Question 1**

1/1 point (graded)

Suppose that you have a Bernouilli variable X with some probability of success given by p and some probability of failure given by q. The mean of X is given by:

- a. p
- $\circ$  b. p/2
- $\circ$  c. (1-p)
- lacksquare d.  $P^2$

### **Explanation**

The expectation of a Bernouilli variable  $m{X}$  is given by  $m{p}$ .

- Module 5: Moments of a Random Variable,
   Applications to Auctions,
   Intro to Regression
- Module 6: Special
   <u>Distributions, the</u>

   <u>Sample Mean, the</u>
   <u>Central Limit Theorem,</u>
   and Estimation

## **Human Subjects and Special Distributions**

Finger Exercises due Nov 07, 2016 at 05:00 IST

# The Sample Mean, Central Limit Theorem, and Estimation

Finger Exercises due Nov 07, 2016 at 05:00 IST

#### Module 6: Homework

► <u>Exit Survey</u>



You have used 1 of 2 attempts

✓ Correct (1/1 point)

### Question 2

1/1 point (graded)

Suppose that there are two soccer players, Anna and Brian. For each attempt, the probability that Anna makes a shot is  $p_A$  and the probability Brian makes a shot is  $p_B$ . Suppose that  $p_A=0.2$  and that  $p_B=0.5$ .

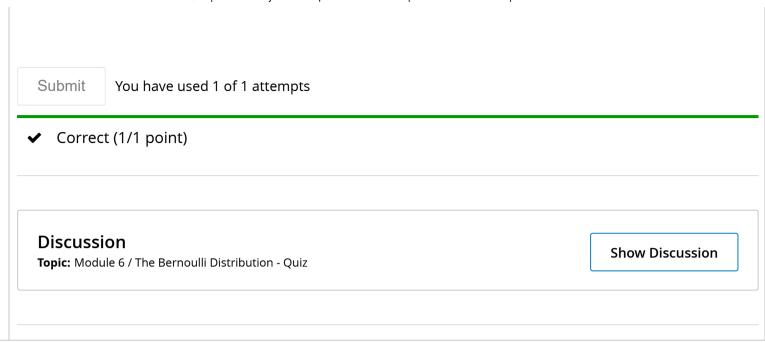
**True or false:** The variance of shots successfully made will be greater for Anna than for Brian.

a. True

🏿 b. False 🗸

### **Explanation**

This is false. The variance for a Bernouilli variable is given by p\*(1-p). Hence the variance of Anna's shots is (0.2)(0.8)=0.16 and the variance of Brian's 100 shots is (0.5)(0.5)=0.25.



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