Exercise: Random variables

(2/2 points)

Let X be a random variable associated with some probabilistic experiment, and let x be a number.

a) Is it always true that $X + x$ is a random variable?

Yes ✔ **Answer:** Yes

b) Is it always true that $X - x = 0$?

No ✔ **Answer:** No

Answer:
a) Yes. Think of a concrete example. Let X be the height of a randomly selected student and let $x = 10$. We are dealing with the random variable $X + 10$. It is the random variable that takes the value $a + 10$, whenever the random variable X takes the value a.

b) No. Think of the same concrete example as before. The object $X - 10$, where X is the height of a randomly selected student, has no reason to be equal to 0. (We often use x to denote the realized value of X. But the problem statement never said that the number x considered here had any relation to the realized value of X.)

You have used 1 of 1 submissions

Exercises 7 due Mar 02, 2016 at 23:59 UTC

Solved problems

Additional theoretical material

Problem Set 4
Problem Set 4 due Mar 02, 2016 at 23:59 UTC

Unit summary