



Bookmarks

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- ▼ **Module 2:
Fundamentals of
Probability, Random
Variables, Distributions,
and Joint Distributions**

Fundamentals of Probability
Finger Exercises due Oct 10, 2016
at 05:00 IST

**Random Variables,
Distributions, and Joint
Distributions**

Finger Exercises due Oct 10, 2016
at 05:00 IST

Module 2: Homework

Homework due Oct 03, 2016 at
05:00 IST

Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions > Random Variables, Distributions, and Joint Distributions > Introduction to Random Variables - Quiz

Bookmark

Question 1

(1/1 point)

What is a discrete random variable?

- ☐ a. A variable that takes on integer values only
- ☒ b. A variable that can only take on a countable number of values
- ☐ c. A variable that is constrained between 0 and 1
- ☐ d. A variable that is constrained between some values x and y , where x and y depend on the variable in question

EXPLANATION

A discrete random variable is a variable that can only take on a finite or countable infinite number of values. Many random variables are integers, but they do not have to be.

► Exit Survey

You have used 1 of 2 submissions

Question 2

(1/1 point)

Which of the following are examples of discrete random variables? (Check all that apply.)

☐ a. The weight of a box of books

☒ b. The number of books in a box ✓

☒ c. The possible weight readings from a scale that measures in hundredths of a kilo from 0 to 100 ✓

☒ d. The number of children in a classroom ✓



EXPLANATION

The number of books in a box and the number of children in a classroom are classic examples of discrete random variables, because they are integer values. In other words, you can have 1, 2, 3, etc... books in a box but you cannot have 1.12324 books in a box. In principle, the weight of a box of books is not discrete, in that there are infinite possible weights and these are not countable. In contrast, if you have a scale that takes measurements in hundredths of a kilo from 0 to 100, the readings from that scale would be discrete since there are a countable number of possible readings.

You have used 2 of 2 submissions

Question 3

(1/1 point)

What is a continuous random variable?

- ☐ a. A variable that does not have a maximum and minimum value
- ☐ b. A variable that takes on integer values only
- ☒ c. A variable that can take on any value of the real line within some interval ✓
- ☐ d. A variable that is either continuously increasing or continuously decreasing

EXPLANATION

A continuous variable refers to a variable that can take on any value within some interval of the real line. The interval can be either bounded (for example, a decimal number from 0 to 25) or unbounded.

You have used 1 of 2 submissions

Question 4

(1/1 point)

Which of the following are examples of continuous random variables? (Check all that apply).

☒ a. Temperature ✓

☒ b. Weight ✓

☒ c. Age, generally ✓

☐ d. Age, in years



EXPLANATION

Temperature, weight, and age are all continuous variables (though they could be measured and reported on a discrete scale). Age in years would be an example of a discrete variable, because it takes on a countable number of values.

You have used 1 of 2 submissions

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