

# DISCRETE RANDOM VARIABLES: PRACTICE 5: HYPERGEOMETRIC DISTRIBUTION\*

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## Abstract

This module provides further practice and exercises on Hypergeometric Distribution in statistics

## 1 Student Learning Objectives

- The student will investigate the properties of a hypergeometric distribution.

## 2 Given

Suppose that a group of statistics students is divided into two groups: business majors and non-business majors. There are 16 business majors in the group and 7 non-business majors in the group. A random sample of 9 students is taken. We are interested in the number of business majors in the group.

## 3 Interpret the Data

### Exercise 1

In words, define the Random Variable  $X$ .

### Exercise 2

$X \sim$

*(Solution on p. 3.)*

### Exercise 3

What values does  $X$  take on?

*(Solution on p. 3.)*

### Exercise 4

Construct the probability distribution function (PDF) for  $X$ .

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$x$	$P(X=x)$

**Table 1**

**Exercise 5**

On average( $\mu$ ), how many would you expect to be business majors?

*(Solution on p. 3.)*



## Solutions to Exercises in this Module

**Solution to Exercise 2 (p. 1)**

H(16,7,9)

**Solution to Exercise 3 (p. 1)**

2,3,4,5,6,7,8,9

**Solution to Exercise 5 (p. 2)**

6.26

