

# DALITE Q6 - Binomial Distribution and Inference for Proportions. Due October 17, 2018 by 5pm.

## EPIB607 - Inferential Statistics<sup>a</sup>

<sup>a</sup>Fall 2018, McGill University

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This DALITE quiz will cover the binomial distribution and inference for a sample proportion. You need to understand the binomial distribution before moving on to the chapter on one sample proportions. This is analogous to learning the normal distribution before inference for a single mean.

Binomial distribution | One sample proportion | Hypothesis testing

### Marking

Completion of this DALITE exercise will be available to us automatically through the DALITE website. Therefore **you do not need to hand anything in**. Marks will be based on the number of correct answers. For each question you will receive 0.5 marks for getting the correct answer on the first attempt and an additional 0.5 marks if you stick with the right answer or switch to the correct answer after seeing someone else's rationale. Recall that access to your assignments is managed through tokens sent to your e-mail address. You will be sent a new link everytime a new assignment has been posted.

## 1. Binomial Distributions

### 1.1. Learning Objectives.

1. Be able to identify a binomial setting and define a binomial random variable.
2. Know how to find probabilities associated with a binomial random variable.
3. Know how to determine the mean and standard deviation of a binomial random variable.

### 1.2. Videos.

1. [Against All Odds Unit 21](#)

### 1.3. Required Readings.

1. [Against All Odds Unit 21](#), pages 1-10
2. [JH notes Section 1](#) on binomial distributions
3. [B&M chapter 12](#), pages 289-307

## 2. Inference for Proportions

### 2.1. Learning Objectives.

1. Identify inference problems that concern a population proportion.
2. Know how to conduct a significance test of a population proportion.
3. Be able to calculate a confidence interval for a population proportion.
4. Understand that the  $z$ -inference procedures for proportions are based on approximations to the normal distribution and that accuracy depends on having moderately large sample sizes.

### 2.2. Videos.

1. [Against All Odds Unit 28](#)

### 2.3. Required Readings.

1. [Against All Odds Unit 28](#), pages 1-11
2. [JH notes Section 2](#) on Inference for a proportion
3. [B&M chapter 19](#), pages 463-479