***Chapter 7.4 Project and Presentation***

***(For juniors only)***

***This assignment is assessed as a test grade.***

**Presentations are on Tuesday May 21. Excel Sheets are due to Mrs. Schenkel immediately following your presentation.**

***LAYOFFS PROJECT and PRESENTATION***

A company has 400 employees, 320 are men and 80 are women (ratio of men to women is 4:1). Due to financial difficulties, the company needs to lay off 10 employees and they tell the employees that they will do so randomly. When the layoffs are announced, 5 of those laid off are men and 5 are women. The 5 women are considering filing a class action suit against the company and hope that they can demonstrate that it is highly unlikely that if the employees were fired at random, that 5 women and 5 men would be fired.

The five women who were laid off have asked for **OUR** law firmshelp as they decide whether to sue the company. What I need from your team is for you to create a simulation in Excel that picks 10 employees at random and identifies the number of women laid off. Run the simulation 100 times and create a relative frequency distribution of the number of women laid off.

Once you’ve run your simulation and made your conclusions we need to start thinking about how we will present our case in court. We are going to do a mock trial where I will sit in as the judge and give you the opportunity to make your case. You will need to have an airtight explanation for how you ran your simulation and know that the layoff decision is unjust. Be prepared to answer follow up questions if they are needed.

**PRESENTATION (9 POINTS)**

Your presentation will be graded based on three criteria: Mathematical Content, Presentation Style, and Clarify and Organization.

* 3 – Criteria fully met
* 2 – Criteria mostly met
* 1 – Criteria minimally met
* 0 – Criteria not met

I. Mathematical Content

* Content presented is mathematically accurate
* Demonstrates adequate understanding of content and is able to answer questions related to the content
* Content is appropriate to the assignment/class/project (not off topic)
* Level of sophistication of the mathematics is appropriate to the class/project
* Appropriate amount of content is presented

II. Presentation Style

* Voice is of appropriate volume and is clear
* Pace is not too fast or slow
* Appropriate use of technology
* Sufficient preparation and practice evident in presentation
* Presenter engages appropriately with audience

III. Clarity and Organization

* There is a clear overall organization to the presentation
* Sufficient and clear examples are given when appropriate
* Sufficient motivation for the mathematics is given when appropriate
* Clear explanations of terminology

**EXCEL SPREADSHEET (12 POINTS)**

You will also earn points for your Excel Sheet that displays your simulation. You will email your sheet to Mrs. Schenkel after your presentation is complete. Your sheet must have the the following components.

* Column that shows trial numbers (1 – 100)
* Clear columns that determine who is laid off in each trial (!0 total)
* Uses CountIf function to determine how many times 1 – 10 women are laid off
* Has a relative frequency table to show the relative frequency that 1 – 10 women are laid off
* Uses CountIf or another function to determine how many times 1 – 10 men are laid off
* Has a relative frequency table to show the relative frequency that 1 – 10 men are laid off

Excel Sheet is….

* Organized thoughtfully
* Easy to read
* Accurate
* Sent to Mrs. Schenkel on time

**Rubric Sheet for Oral Presentation (12 points)**

**See assignment for specifics in each category.**

**Free 3 points for doing the presentation.**

I. Mathematical Content 3 2 1 0

II. Presentation Style 3 2 1 0

III. Clarity and Organization 3 2 1 0

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**Rubric Sheet for Final Excel Sheet (12 points)**

**Excel Sheet Content:**

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Column that shows trial numbers (1 – 100)

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Clear columns that determine who is laid off in each trial (10 total)

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Uses CountIf function to determine how many times 1 – 10 women are laid off

\_\_\_\_\_\_\_\_\_\_\_\_(2 points) Has a relative frequency table to show the relative frequency that 1 – 10 women are laid off

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Uses CountIf function or a formula to determine how many times 1 – 10 men are laid off

\_\_\_\_\_\_\_\_\_\_\_\_(2 points) Has a relative frequency table to show the relative frequency that 1 – 10 men are laid off

**Excel Sheet Aesthetics:**

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Organized thoughtfully

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Easy to read

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Accurate

\_\_\_\_\_\_\_\_\_\_\_\_(1 point) Sent to Mrs. Schenkel on time (immediately after presentation)

Final Grade

= \_\_\_\_\_\_\_

 24

Total Points Earned