**ATTENTION STUDENT**: If you are found to have plagiarized any part of your PsychSim assignment, you will receive a 0 for the assignment and may be formally reported to KPU. If you wish to quote the source provided or any other webpage, you MUST cite the source using APA formatting. To avoid plagiarism, write all answers **in your own words**.

For more information on plagiarism and cheating, please visit <https://libguides.kpu.ca/academicintegrity/plagiarism> to study the videos and tutorials available.

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**Name this file using the following format:**

**LastnameFirstname\_Section\_AssignmentName**

For example: SmithJohn\_A54\_AuditorySystem

**PsychSim Online: Descriptive Statistics**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Course/Section: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Instructor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

This activity introduces you to the basic statistics researchers use to summarize their sets of data.

**The numbers below represent the scores of a sample of students on a math test. Use them to perform the required calculations.**

10, 13, 10, 12, 11, 7, 12, 11, 6, 11, 12, 11, 8, 10, 9

**Distribution of Scores**

1. Sort the scores by arranging them in order from lowest to highest. Place the ordered list here:

Watch the following video on frequency histograms:

<https://www.youtube.com/watch?v=R_D-PuMUT24>

How to create histogram in Excel: <https://youtu.be/pDlpFKiYie4>

**Microsoft Excel is free for all KPU students**. Visit <https://www.kpu.ca/it/students/O365>

1. Based on the scores you have just sorted, create a **frequency histogram** below using the chart function under the “Insert” tab or by copying and pasting a chart made in Excel onto this document:

**Measures of Central Tendency**

Watch the following video on central tendency:

<https://www.youtube.com/watch?v=ZVxZBK9Vm5w>

1. Identify if each of the definitions or calculations represents the Mean, Median, or Mode

|  |  |
| --- | --- |
| **Definition/Calculation** | **Mean, Median, or Mode?** |
| Average |  |
| First, order from smallest to largest; next, find the middle number |  |
| Most common value |  |
| Middle value |  |
| The score with the highest frequency (e.g., highest number(s) in a frequency table) |  |
| Sum of all scores ÷ number of scores  See the source image |  |

1. What is the mode of your distribution from above?
2. What is the median of your distribution from above?
3. What is the mean of your distribution? Show your calculations.

**Measures of Variability**

Watch the following video on measures of variability (Begin watching at 4:08):

<https://youtu.be/mk8tOD0t8M0?t=237>

1. How is a range calculated?
2. What is the range of your distribution from above?
3. What is the standard deviation for your sample data set? Show your calculations.
4. What does the standard deviation tell you? What does your calculated standard deviation mean with respect to the scores from the sample of grades from a math test?