

## Out-of-Class Activity Solutions - Weighted Averages

Create a spreadsheet that represents the information provided in the In-Class Activity Worksheet for Part 1. To do this, refer to the “Excel Instructions – Weighted Averages” handout, which utilizes special functions in Excel for the computations.

Once you have created the required spreadsheet, answer the following questions.

1) Suppose the student made a 0% on the first homework assignment instead of a 75%. What is the new homework average and the new overall grade?

**New Homework Average: 68.93%**

**New Overall Grade: 77.74%**

2) For this problem, use the original spreadsheet. That is, return the first homework assignment score back to 75%.

Suppose the student ran out of time and did not turn in Project 1. How much do you think a zero for Project 1 will affect the overall grade? Insert a 0% for the score on Project 1 to see if your prediction is correct.

If your prediction was close, explain how you came to that conclusion. If your prediction was not close, explain the discrepancy.

**New Overall Grade: 63.89%**

**The students will likely realize the grade will go down. They may think it will go down by 20% as that is the weight of Project 1.**

3) For this problem, use the original spreadsheet. That is, return the score for Project 1 back to 73%.

Suppose the student has all of the given scores, except the final exam. That is, remove the final exam score from the spreadsheet.

(i) What is the student’s cumulative weighted grade prior to the final exam?

**80.65%**

(ii) What score must the student make on the final exam to keep their overall grade at that score?

**80.65%**

4) Again, begin this problem with the original values. That is, return the score on the final exam back to 72%.

Suppose the teacher said that she would do either one of the following to compute the student's overall grade. The student will tell the teacher which option they want her to use.

Option 1: Add 10% to the Project 2 Score, bringing it to a 100%.

Option 2: Add 5% to the Final Exam Score, bringing it to a 77%.

Predict the option that would increase the student's overall grade the most and explain your reasoning.

The student should choose Option 1: Add 10% to the Project 2 Score. The weight of Project 2 is 20%, so adding 10% to the grade gives an additional 2 percentage points to the overall grade. But, adding 5% to the final exam, which has a weight of 25%, will only increase the overall grade by 1.25 percentage points.

Make the adjustments in the spreadsheet to see if you selected the better choice.

5) Begin this problem with the original values.

Suppose the student is near the end of the semester and has grades for everything except Project 2 and the Final Exam. What is their cumulative grade up to this point?

77.25%

Students need to recognize that they need to remove both the scores and weights for these items.

6) Begin this problem with the original values. That is, go back and fill in the values and weights for Project 2 and the Final Exam.

Suppose the weight of the homework changed to 25% and the weight for each project changed to 15% each. What is the new overall grade?

77.73%

This question can be deleted if needed.

7) Write a one or two-paragraph reflection regarding this activity. In your reflection, please include the following.

a) Create a new scenario by changing a score (or scores) and/or a weight (or weights). Discuss the changes you made and how it affected the overall grade.

b) What stood out about this assignment? Were you surprised by the results? Explain.

c) Did this activity influence the way you might approach your classes and grades in the future? Why or why not?