

Name: _____

MATH 101

Fall 2022

HW 4: Due 09/28

“We need to do what any animal in nature does when it’s cornered: act erratically and blindly lash out at everything around us.”

–Erlich Bachman, Silicon Valley

Problem 1. (10pt) Suppose there are three exams in a course: two midterms and a final. A student receives the exam scores given below.

	Midterm I	Midterm II	Final
Score	72	41	117
Out of...	85	76	120

Find the student’s exam average if...

- (a) each exam is weighted equally.
- (b) the exam average is measured by the percentage of points earned.
- (c) the final exam is worth twice as much as any midterm.
- (d) the final exam is worth twice as much as the midterms combined.

Problem 2. (10pt) Vinyl Richie is taking an English course that has the following grade components:

Participation	10%	Research Paper II	10%
Quizzes	5%	Research Paper III	15%
Homework	20%	Presentation	5%
Research Paper I	5%	Final Paper	30%

If he has a 100% participation average, 90% quiz average, 84% homework average, a 75%, 91%, and 88% on research papers I, II, and III, respectively, a 92% on his presentation, and a 83% on his final paper, what is his final average in the course?

Problem 3. (10pt) D.J. Salinger is finishing his undergraduate at TACS. Thus far, he has taken 112 credits and has a 3.415 GPA. This last semester grades are found below: [The college's letter grade scheme is show above on the right.]

Course	Credits	Grade				
Women in Music	3	A–	A	4.0	C+	2.3
Marketing in Industry	3	B	A–	3.7	C	2.0
Desktop Music Production	4	B+	B+	3.3	C–	1.7
DIY Music Marketing	3	A	B	3.0	D	1.0
Music, Turmoil and Nationalism	3	C+	B–	2.7	F	0.0
Music Supervision	1	A				

What is D.J.'s final GPA? Does he finish cum laude (GPA at least 3.5), magna cum laude (a GPA at least 3.65), or even summa cum laude (GPA 3.8 or higher)?

Problem 4. (10pt) Restaurateurs purchase olive oil by the gallon. Because of the expense of olive oil, they often track its price volatility. They do not measure the average price per gallon. Instead, they measure the average gas price per gallon weighted by the volumes purchased from various regions. Suppose one restaurateur is measuring the average olive oil price per gallon in a region. Over the course of a week, the price and volumes of olive oil purchased in three regions are given below:

Station	Price (\$)	Volume (Gallons)
Northern	\$51.71	27,600
Southern	\$43.25	18,200
Eastern	\$156.45	8,700

Find the average olive oil price per gallon 'normally' and then the average olive oil price per gallon weighted by volume. Explain the differences between the two.