Name: _____

MATH 101
Summer 2022
HW 3: Due 05/26

"Mathematics is not about numbers, equations, computations, or algorithms: it is about understanding."

–William Paul Thurston

Problem 1. (10pt) Suppose a course grade consists of the following weights:

Homework	30%
Quizzes	15%
Exam 1	20%
Exam 2	20%
Final Exam	10%
Project	5%

Suppose also that a student had a 86% homework average, 90% quiz average, 72% on exam 1, 87% on exam 2, 95% on the final, and 82% on the project. Compute the student's course average.

Problem 2. (10pt) Suppose a GPA consists of the following weights:

A	4.0	C+	2.3
A−	3.7	C	2.0
B+	3.3	C−	1.7
B	3.0	D	1.0
B−	2.7	F	0.0

Suppose a student had the following grades on their courses: Compute this student's GPA.

Course	Credits	Grade
Survey of Literature	3	B−
Freshman Seminar	1	A
Physics I	4	C+
World Cultures	3	A−
Spanish I	3	B
Algebra II	4	D
Macroeconomics	3	B+

Problem 3. (10pt) Compute the following percentages:

(a) 40% of 260

(b) 35% of 1050

(c) 110% of 37

(d) 13% of 810

Problem 4. (10pt) Compute the following:

(a) 600 increased by 80%

(b) 28 decreased by 60%

(c) 730 increased by 170%

(d) 45 decreased by 99%

Problem 5. (10pt) Convert 15 mi/min to m/s. [1 mi = 520 ft; 1 m = 3.28084 ft]

Problem 6. (10pt) How many feet are in 1 furlong? [1 furlong $= \frac{1}{8}$ mi; 1 mi $= 5280$ ft]

Problem 7. (10pt) Convert 0.1 mi^2/s to ft^2/min. [1 mi $= 5280$ ft]

Problem 8. (10pt) Sand is filling into a giant rectangular container that is 5 ft wide, 8 ft long, and 1.5 ft deep. If the sand is flowing in at a rate of 0.6 ft^3/min, how long until the container is full?

Problem 9. (10pt) Suppose a horse bet pays $19 for every $2.50 bet. If you bet $227 and win, how much should you expect to be paid?

Problem 10. (10pt) If you use 5 bags of flour every 7 months, how many should you purchase to have enough flour to last you 3 years? If a bag of flour costs you $4.19, how much do you spend purchasing this amount?