Math 108-01
Summer 2025
Dr. Lily Yen

Quiz Two

Show all your work

Name: _____
Number: _____
Signature: _____
Score: ___/10

Problem 1: Use a permissible graphing calculator (TI83, TI83+, TI84-Plus) to set up a table of values to estimate the instantaneous rate of change of y with respect to x for the function $f(x) = 2x^2 - \dfrac{1}{x}$ at $x = 3$. Round your answers to 6 decimal places. Specify your Y_1 and Y_2 as part of your steps.

Interval	$Y_2 =$

Score: /5

Problem 2: Shown is a sample of 10 classrooms at CapU during fire alarm drill week showing the class size and the number of minutes it took each class to vacate the room once the alarm started ringing.

Classroom size (students):	26	35	31	40	28	20	38	42	85	77
Time to vacate (in minutes):	2.5	3.1	2.9	3.3	2.0	2.3	3.2	3.5	4.1	3.8

Use the given data to answer the following questions:

a. Draw a scatter plot. Provide dimensions of the window and label your axes.

Score: /2

b. Use linear regression to find a model to fit your plot. Report your model to six decimal places.

Score: /2

c. According to your model, what is the time accurate to a tenth of a minute of a classroom with 37 students would take to vacate when the fire alarm starts to ring? Comment on the reliability of your answer.

Score: /1