

Answer the Challenge Question- “Go Public” Assessment

After learning about the different types and applications of linear functions, it is now time for you to focus on the challenge that was presented to you initially. Work on your own to present a one to two page document detailing how you’ve solved the challenge question. Find the linear function that best fits the data! Using the data points given, solve for the linear equation which matches the data set. Of the equations given to you by the grad student working in the lab, pick the one which best matches the equation you have just solved for and explain why you chose that particular equation. If you cannot find an equation similar to the one you solved for, just make sure to show your work and explain your findings as best as possible. Be sure to show all the work which led you to your solution.

Be sure to include:

- 1) The math work needed to put all of the equations in slope-intercept form ($y=mx+b$).
- 2) An explanation of how you found the slope, m , using the given data points (both words and numbers).
- 3) An explanation of how the other part of the equation “ b ” is found (both words and numbers).
- 4) The equation of best fit that is most closely related to an equation the grad student gave you. (You can include your personal equation that you calculated from the data and the equation most similar given to you by the grad student.)
- 5) Describe what this data may represent.

Equations suggested by the graduate student:

$$x - 1429y = 137$$

$$y = 1405x - 134$$

$$y = 0.0007x + 0.0956$$

$$y = \frac{1}{0.0007}x + 0.0956$$

Data Found in Lab:

Time (in seconds)	Load (in N)
0	0.0961
0.1999	0.096
0.3999	0.0961
0.5998	0.0963
0.7998	0.0962
0.9997	0.0964
1.1997	0.0966
1.3996	0.0967
1.5996	0.0966
1.7995	0.0965
1.9995	0.0967
2.1994	0.0969
2.3994	0.0968
2.5993	0.0969
2.7993	0.0971
2.9992	0.0975
3.1992	0.0974
3.3991	0.0974
3.5991	0.0973
3.799	0.0979
3.999	0.0977
4.1989	0.0982
4.3989	0.0985
4.5988	0.0989
4.7988	0.0988
4.9987	0.0989
5.1987	0.0996
5.3986	0.0996
5.5986	0.0998
5.7985	0.0997

Answer the Challenge Question- “Go Public” Grading Rubric

Placing equations in slope-intercept form

Recognizing that only the first two equations need to be converted _____ /5pts

Changing equation 1 into the correct form _____ /5pts

Changing equation 2 into the correct form _____ /5pts

Finding slope of best fit for the data

Mathematically finding the slope between two or more points _____ /15pts

Explanation of thought process _____ /10pts

Explanation of finding “b” value

Mathematically finding the correct “b” value _____ /15pts

Explanation of thought process _____ /10pts

Picking the equation of best fit

Equation solved for by student _____ /10pts

Explanation of equation matching _____ /10pts

Correct choice of grad student suggested equations _____ /5pts

Clarity _____ /5pts

Readability _____ /5pts

Total _____ /100pts

Comments: