

National Education Foundation
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Independent Mathematics Contractors
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Dear IMC:

Being college students, you are very familiar with the costs of attending college. Over the past several years, tuition and fees have risen dramatically across the country. My foundation is interested in publicizing the advantages of attending community college prior to attending a four-year college. We anticipate that this would be a cheaper option for most students around the United States.

Accompanying this letter, you will find a list of states, types of colleges, and tuition costs for the school years 2010-2011 through 2013-2014. On a separate list, you should also find your last name indicating the state and type of four-year college you will be using in your analysis.

In your analysis, we would like you to compare the cost of attending a four-year college in the state you were assigned to the cost of attending a two-year college and then a four-year college in the state you were assigned. Your goal is to determine how much is saved by attending a two-year college to earn a four year degree. To make this comparison, you will need several assumptions.

- Assume that students spend four years in college. By this, we mean that a student will spend all four years at the four-year college or the first two years at the two-year college and last two years at the four-year college.
- Assume that students will be attending college over the school years 2015-2016 through 2018-2019.
- Ignore any costs associated with room and board. Also, ignore any financial aid students might receive.

To make the comparison, we anticipate that you will need to complete a number of tasks:

- **Technology Assignment – Make a Scatter Plot of College Costs:** Make scatter plots of the data you are assigned. The independent variable should correspond to time and the dependent variable should correspond to tuition and fees at a particular time. Since you will be examining costs at two-year colleges and four-year colleges (either public or private), you will need two scatter plots.
- **Technology Assignment – Find a Linear Model for College Costs:** Find a linear model that passes through two of the data points on each of the scatter plots. Put each of the linear functions on the scatter plot to confirm that it passes through the two points on the graph.
- Interpret the slopes and intercepts of the functions from the technology assignment.

- **Technology Assignment – Measure Fit:** IN this assignment, you will determine how far your estimates are from the data points.
- Use your functions to calculate the savings from attending two-year college during the first two years of a four year degree instead of attending a four-year college for all four years.

The technology assignments were designed to help guide you through the solution process.

Once you have completed these tasks, you will need to document the process you used to reach your answer. Your instructor will distribute information on the form this documentation will take. It should include a number indicating how much is saved by attending a two-year college as part of obtaining a four year degree as well as an explanation of how to calculate this number. If you are unclear on what is expected in your documentation, contact your instructor via email or by phone.

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National Education Foundation