Subject area/course: Mathematics; Algebra/Statistics Grade level/band: 11-12 Task source: Marina MacDonald, Karen Anderson, Graeme Crowther, Suzanne Keifer, Matt Dubois, and Stephen McDonough (Laconia HS)

What is Right for Me?

STUDENT INSTRUCTIONS

A. Task context:

In this task you will be asked the essential question: How can I use statistics to help me decide my future? You will choose two colleges in different locations to analyze. The purpose of this assessment is to use statistics to think about and evaluate the different choices you have about where you might go after high school.

You will create and use trend lines and r² values to analyze tuition and enrollment data from each college. You will use data from the past 5 years to fit functions to this data and make predictions for the time you will attend. Then you will interpret mean, median, range by analyzing information from the cities or towns where each college is located. This information will include statistics about population size, crime rates, careers, and income levels.

B. Final product:

- Tuition and Enrollment Analysis using Trend lines and Extrapolation Choose two different colleges to research for this project. For each choice, you must find two sets of data: tuition and enrollment. You will turn in your analysis and explanation of the data using the each of the following statistical measures and tools:
 - Data tables
 - Scatter plots
 - Trend lines
 - R² values
 - Standard deviation
 - Range
 - Mean
 - Median

2. Location Analysis using Mean, Median and Range

You will also turn in an analysis of the two towns or cities that your schools are located in. You will need to find and explain data and statistics (including mean, median, range, etc.) from the following categories:

- Population/Ethnic Distributions
- Income/Careers



- Crime and crime rates
- One additional category of your choice
- 3. Report on Options

Using the trend lines and statistics you found, write a report that outlines what you learned about each college and the cities/towns where they are located. Include inferences about what the place will be like when you will be there. Be sure to compare and contrast the options and include your predictions for tuition and enrollment numbers. What do these statistics <u>mean</u>? How do they influence your post-high school decisions? What did you learn? Be sure to cite your sources.

ADDITIONAL INFORMATION

C. Knowledge and skills you will need to demonstrate on this task:

- Use Excel to create graphs and charts that show data in a visual format.
- Research information and data about different colleges and cities.
- Explain your data using a written analysis.
- Data tables, mean, median, range, scatter plots, box plots, histograms, standard deviation, trend lines, r² values.

D. Materials needed:

- List of potential colleges
- Access to the Internet for research
- Excel or another data analysis program

E. Time requirements:

This task will take approximately 2 weeks to complete.

F. Scoring:

Your work will be scored using the SCALE Math Performance Assessment Rubric (Grades 9-12). You should make sure you are familiar with the language that describes the expectations for proficient performance.

