

*****DO NOT WRITE ON THIS PAGE!!!*****

Task: T-Shirt Task

8th Grade

Ms. Shaw's 8th grade class is taking a field trip. The principal has agreed to buy t-shirts for everyone going on the field trip so that everyone can dress alike. Each person's t-shirt will have the school logo on the front, and that person's name on the back. Ms. Shaw has found two companies that can make the t-shirts. The costs are listed in the table below.

<i>Item</i>	<i>Company A</i>	<i>Company B</i>
T-shirt and logo (without the name)	\$5.75 each	\$5.65 each
Letters on the back	3 letters cost \$0.63	4 letters cost \$0.88

Andrea and Lexus, two students in Ms. Shaw's class, are arguing over whether Company A or Company B has the best price on the t-shirts. Andrea believes that Company A will be cheaper because the cost per letter is cheaper. Lexus believes that Company B will be cheaper because the cost of the t-shirts is cheaper. You are asked to help Andrea and Lexus decide which company to recommend to Ms. Shaw.

- a) Give an example of a name you can put on a t-shirt that will make Company B's price cheaper than Company A. You may use a first name, a last name, or both a first and last name. Explain why Company A's price is best in this case.
- b) Give an example of a name you can put on a t-shirt that will make Company A's price cheaper than Company B. Explain why Company B's price is best in this case.
- c) Which company would you recommend to Ms. Shaw? Make a table of values to support your recommendation. Explain why you chose that company. In your explanation, you will need to tell Ms. Shaw whether you think the t-shirts should have only the first name, only the last name, or both the first and last names of the students. Include any assumptions you need to make to support your recommendation.
- d) Use your table of values to draw a graph to represent your data. Do you think the graph would be helpful in supporting your recommendation? Why or why not?
- e) Develop a formula to help Ms. Shaw determine the price of an individual t-shirt if she knows the number of letters in a person's name for the company you are recommending.

- f) Create an equation for the company you are NOT recommending. Put this equation together with the one you created from part (e). Then use the substitution method to solve this system of equations. Explain what both numbers in your solution represent.