

Rich Mathematical Task – Algebra – *Shopping Translations*

Name _____

Date _____

Shopping Translations

You spent your summer working a part-time job in order to be able to purchase the items you need for your first year at college. There are many items you need and there are many items you want. Below is a list of items and their costs expressed verbally. For each item, translate the cost as an algebraic expression, using a variable to represent the amount of money you earned this summer. Then answer the questions shown below the table.

<p>Cost of a laptop computer: one-fourth of the money you earned this summer</p> <p>Translate:</p>	<p>Cost of a computer desk: two thousand five hundred less than the product of the money you earned this summer and two</p> <p>Translate:</p>
<p>Cost of a desk chair: five more than the quotient of the money you earned this summer and twenty</p> <p>Translate:</p>	<p>Cost of a bike: one-eighth of the quantity of two and the money you earned this summer</p> <p>Translate:</p>
<p>Cost of textbooks: twice the amount of money you earned this summer minus three thousand</p> <p>Translate:</p>	<p>Cost of new shoes: square of the quotient of the money you earned this summer and one hundred sixty</p> <p>Translate:</p>
<p>Cost of new clothes: The difference between the money you earned this summer and one thousand five hundred</p> <p>Translate:</p>	<p>Cost of a mini fridge: Three times the square root of the money you earned this summer</p> <p>Translate:</p>

Questions: If you earned \$1600.00 this summer at your part time job, will you have enough money to make all the purchases above? Show your work evaluating each expression above. What is the total cost for all your college expenses? If you do not have enough money to cover the expenses, what item(s) would you not purchase? What would your total cost be after eliminating the item(s)?