



The Scholars' Academy

Mission Statement: To Prepare for College and Careers of the 21st Century

"Technology Today, Smarter Tomorrow: Removing Time and Place from Teaching and Learning"

27Q323 is an Accelerated College Preparatory School for Grades 6-12

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Buy the Hour

Due: Thursday, September 12th

The Scholars' Academy Marking Period 1 Term 1

Name: _____

Have you had your first job yet? If so, it is likely that you were paid an hourly wage. The amount of money you earned for each hour you worked was probably the minimum wage. This amount, set by the U.S. Department of Labor, is the minimum amount an employer is allowed to pay to employees who meet certain specific criteria for one hour of work. Each state may set its own minimum wage, but where federal and state laws set different rates, the employer is required to pay the greater of the two amounts to all employees to whom the conditions of the Federal law apply.

In this project, you will write expressions that model amounts of money earned. You will write equations and inequalities to determine the number of hours that must be worked to satisfy certain conditions. You will also research the current Federal and state minimum wage laws.

Common Core Standards:

A-CED.1. Create equations and inequalities in one variable and use them to solve problems. **A-CED.2.** Create equations in two or more variables to represent relationships between quantities

A-REI.3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Activities:

#1:

Research the current Federal minimum wage. Then find out whether New York has set its own minimum wage. If so, what is that wage? Then, select a state other than NY. Research the minimum wage for that state. Please cite your data.

#2:

Suppose you earn the minimum wage determined for the state you chose, other than NY.

Suppose that next week you plan to work h hours. Write an expression that models the amount of money you have.

Suppose that your friend Rich earns the same hourly wage that you earn, but works in a job for which he receives tips. Write an expression that models your friend's total earnings for a week during which he works n hours and receives \$15 in tips. Then, evaluate the expression for $n = 10$ and explain what this number means.

Write an expression that models the sum of your earnings for three weeks and Rich's earnings for two weeks if you each work r hours per week and Rich receives \$15 in tips per week. Simplify the expression. Write an expression that models the different between your earnings and Rich's earnings for a week during which you work h hours, Rich works n hours, and Rich earns t dollars in tips. (Hint: Be sure to consider the fact that you do not know who earned more money!)

#3

Round numbers of hours to the nearest tenth if necessary.

Suppose that last week your employer gave you a \$.50/hr raise and \$20 bonus as a reward for good work. You earned a total of \$80 for the week. Let x represent the number of hours you worked that week. Write an equation to model this situation. Then solve your equation and explain the meaning of your solution.

Suppose Rich (still earning minimum wage) receives \$20 in tips, and that you (earning \$.50/hr more than Rich) have earned the same amount of money at the end of a week during which you worked the same number of hours as Rich. Write an equation to model this situation. Then solve your equation and explain the meaning of your solution.

Suppose that Rich wants to earn at least \$95 next week and he expects to earn \$15 in tips. Write an inequality that models this situation. Then solve and graph your inequality. Explain the meaning of your solution.

#4

Research the minimum wages set by other states. If they differ from the minimum wage of your state, determine possible factors that might contribute to the differences. Find out what conditions might exist that would allow an employer to pay an employee less than the Federal minimum wage.

Finishing the Project

The answers to the activities should help you complete your project. You should prepare a booklet that includes the data you researched, the expressions, equations and inequality you used to model the given situations and the graph of your inequality.