

## Unit 2 Performance Task: A “Taxing” Problem

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

1. Choose a career that you think you might be interested in pursuing: \_\_\_\_\_

2. Do some research to find the average salary of someone in CT (or the state you think you’ll live in): \_\_\_\_\_

3. Choose/circle a tax filing status (be creative!):

Single     
  Married, Filing Jointly     
  Married, Filing Separately     
  Head of Household

4. Use this link to determine which tax bracket you’ll be in: [Link to tax brackets](#)

Tax Bracket (Percent): \_\_\_\_\_

5. Model your tax bracket with an equation in slope-intercept, standard, or point-slope form (with variables defined). Use your equation to convert to a different but equivalent form. What key features of the graph are revealed in each equation?

Equation #1:

Key Features:

Equation #2:

Key Features:

Create equations in two variables. A.CED.A.2, MP4			
4: Equation successfully models situation in a form specific to the requirements of the problem.	3: Equation models situation.	2: Equation fits an appropriate form but contains errors.	1: Equation is written, but does not successfully model situation.
Write a function in different but equivalent forms. F.IF.C.8, MP7			
4: Equation is correctly converted to a different but equivalent form and all key features are represented.	3: Equation is converted to a different but equivalent form and key features are represented, but minor errors are included.	2: Equation is incorrectly converted to a different but equivalent form and key features are not represented correctly.	1: Either the equation or key features is provided.

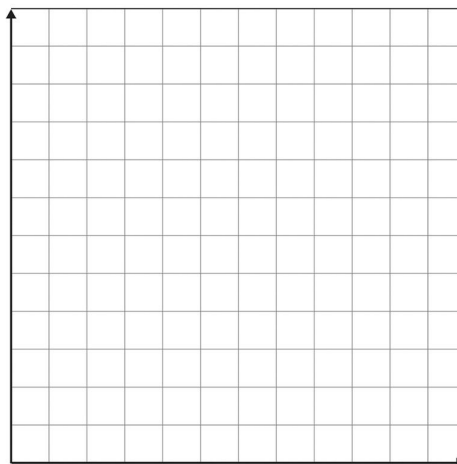
**6. Model your tax bracket with an equation that is solved for x.**

Rearrange formulas to highlight a variable of interest. A.CED.A.4, MP7			
4: Equation is successfully solved for the variable and completely simplified.	3: Equation is successfully solved for the variable.	2: Equation is solved for the variable, but contains errors.	1: Equation is written, but is not solved for the variable.

**7. Model your tax bracket with an appropriate domain.**

Relate the domain of a function to its graph and the relationship it describes. F.IF.B.5, MP4			
4: Domain and range are correctly written and explained in the context of the situation.	3: Domain is correctly written and explained in context of the situation.	2: Domain is correctly written.	1: Domain is provided, but contains errors.

**8. Model your tax bracket with a table and graph.**



Understand that the graph of an equation in two variables is the set of all solutions forming a line. A.REI.D.10, MP4			
4: Graphs and tables are thorough; they contain labels of all key features, appropriate increments, and restrictions on domain and range.	3: The graph and table accurately model the equation as a set of all its solutions.	2: The graph and table provided model the equation as a set of solutions, but they contain errors.	1: One of the two models is provided. May contain minor errors.

9. Use your equation from #5 and the salary from #2 to determine what your taxes would be.

Solve linear equations in one variable. A.REI.B.3, MP1			
4: A detailed explanation gives the solution in the context of the problem.	3: The equation is solved accurately and a label is included in the answer.	2: An equation was used, but the process of solving and/or solution contain errors.	1: A reasonable solution is given, but the linear equation was not used.

10. Let's say your boss offers you a raise that would bump you into the very bottom of the next tax bracket. Your co-worker warns you that it's not a good idea to accept the raise because you will be taxed a higher percent of your income. Is it worth it to take the raise?

Solve systems of linear equations. A.REI.C.6, MP3			
4: Systems of equations were used to solve the problem and a detailed justification is given to support the claim.	3: Systems of equations were used to directly answer the question.	2: Systems of equations were used, but the work contains errors.	1: A reasonable answer is given, but systems of equations were not used



