**ALGEBRA 1 FINAL EXAM PROJECT - REAL LIFE APPLICATIONS**

ASSIGNED: May 11, 2021 **DUE: Thursday, May 20th, 2021**

**STANDARDS ADDRESSED:**

MAMDMN1. Students will extend the understanding of proportional reasoning, ratios, rates, and percents by applying them to various settings to include business, media, and consumerism. a. Use proportional reasoning to solve problems involving ratios.

MAMDMA3. Students will create and analyze mathematical models to make decisions related to earning, investing, spending, and borrowing money. a. Use exponential functions to model change in a variety of financial situations. b. Determine, represent, and analyze mathematical models for income, expenditures, and various types of loans and investments.

MAMDMD2. Students will build the skills and vocabulary necessary to analyze and critique reported statistical information, summaries, and graphical displays.

MAMDMD3. Students will apply statistical methods to design, conduct, and analyze statistical studies.

ASSOCIATED STANDARDS: MM1P1-MM1P5

***LIVING ON YOUR OWN***

**Project Purpose: To give students a realistic view of the transition from high school to adulthood and see who Math is used in everyday life.**

**Project Introduction:**

Ask yourself: Am I truly prepared for adulthood? Are the choices I make today conducive to my success in the future? **The choices you make today are shaping your tomorrow**. You will be exploring your earning potential and creating a budget that ***might*** represent your real life.  Are you on the right road to in your education to meet the goals you have for your future?

**SECTION 1**

***Task 1: Calculate Your Current GPA based on your current grades in the system right now for all 8 classes***

***A (90-100) = 4.0, B (80-89) = 3.0, C (71-19) = 2.0, D (70) = 1.0, F = 0.00***

***Find the mean of these new numbers by adding and then dividing by how many classes you took.***

Write you GPA in the box labeled🡪 Current GPA

* **Based on your GPA (Grade Point Average), you will determine yearly salary.  Better grades should yield better pay.**
* **Find where your GPA fits in on the table on my website. You CANNOT round up since it is a mean. If your GPA isn’t high enough for the higher bracket then you must move down a bracket.**
* **Based on this yearly salary you will choose a Job that fits into your projected salary range!**

***This project has been researched to reflect the cost of living in today's world.***

1. You will research and calculate budgets
2. Learn the limitations of your income
3. Begin to appreciate the power of good budgeting AND MATH.

***Many times you will need to manipulate your budget in order to afford the necessities and luxuries you would like to have.  As you cut your budget to fit your salary, you will begin to experience the struggles of real life.***

***WORKSHEET COMPLETION***

**1)**  **Salary**

You will be given a copy of a budget worksheet to be used throughout the project.  ***When you finish your entire worksheet you will TURN THIS IN AS 50% OF YOUR FINAL GRADE.***

**A.** Use the chart on my website www.sylviaanderson.weebly.com to determine your potential yearly salary, **based upon your GPA then record your data in box 1A LOW SALARY TO HIGHEST SALARY on the Monthly Budget Worksheet**

**Current GPA = 83**

**1A)** Salary **Range per Year**to 

[**http://www.SylviaAnderson.weebly.com**](http://www.SylviaAnderson.weebly.com)

1. **Salary Range Per Month**

**Determine the range of your Monthly Salary by dividing each number in box 1A by 12**. You should have 2 numbers.  These two numbers become the low and high end of your monthly salary.

**Example: GPA = 83 1A)** Salary **Range per Year**to 

**$22000 divided by 12 Months = $1833.00  (round to the nearest dollar)**

 Do this again using the high end of your yearly income.  Use $27,999 .

**Example:   $27999 divided by 12 monthly = 2333.33   
(round to the nearest dollar)**

**1B) Salary Range per MONTH**

to 

1. **Hourly Salary Range**

**\*\*Determine the range of your hourly wage by dividing the 2 numbers in box 1A by 52-weeks and then 40 hours.** These two numbers become the range for your hourly wage.

**Example:  GPA = 82**Salary **Range per Year**to 

**$22000 divided by 52 weeks, divided by 40 hours =   $10.58 per hour             
 (DO NOT ROUND TO THE NEAREST DOLLAR!!! round your answer to the nearest cent).**

**\*\*\* Do this again using the high end of your yearly income.**  Use $27,999 instead of $22,000.

**Example:   $27999 divided by 52 weeks, divided by 40 hours =   $13.46 per hour (round your answer to the nearest cent).**

1. PROFESSION

**Now its time to determine what type of job you can do based on the amount you are capable of making per year.**  Each year the United States Government surveys millions of Americans and determines how much different jobs pay per year, per month, or per hour. You will research and choose a career based upon your yearly or hourly wage range.

GO TO THIS WEBSITE: There is a list of over 2000 jobs along with their Median wage.

**Web site:** [**http://www.bls.gov/ooh/**](http://www.bls.gov/ooh/)

     For each job on the website there is a Tab called **Earnings**.  Here they list the **Median Income** for a group of jobs in that field.  **You must choose a job that does not exceed the Yearly, Monthly, or Hourly Salary ranges. You may pick a job below your ranges but you MAY NOT go over** the higher number in your range. If you can't do the job you would like look at the tab called **Similar Occupations**.  This is a group of jobs that are similar to the job you are looking at.

**Once you have found the job you would like to do, record it in the box labeled PROFESSION**

1. **ACTUAL MEDIAN Yearly Income:**

**For the job of your choosing in box D, list the Actual Median Yearly Income based on the information from the earnings tab for that job.  If the website does not list the median income for the job you want to choose, then you may NOT use it** **UNLESS it has the hourly, or monthly salary listed**

1. **ACTUAL MONTHLY WAGE**

**Actual Monthly Wage by dividing the median yearly income by 12.****Record your actual hourly wage by dividing the Actual Median yearly Income by 52 and then by 40.**

**2)**   **Taxes**

Every American must pay taxes and other expenses to help support the running of our government.  Next you will find how much money you must pay per month in taxes, social security, and Medicare.

1. **PERCENT OF INCOME TAXED**

**1ST Blank: Percent of Income Taxed:**

**First you must find out what percent of your income is taxed and deducted per year.**  The more money you make the **more the government taxes.**  Also, the more you pay in **Social Security and Medicare.** HOLD CTRL and CLICK THE LINK BELOW. This webpage will help you determine what percent of your income is taxed. **Don't forget to add the 5% of your income that goes to Social Security and Medicare.**  Everyone must pay this; the government takes it out of your check automatically every pay period.

 Website:  [Taxes, Social Security, and Medicare Page](http://mathninja.org/wp-content/uploads/2013/05/Yearly-Income-Tax.htm): <http://mathninja.org/wp-content/uploads/2013/05/Yearly-Income-Tax.htm>

2nd Blank: **ESTIMATED YEARLY INCOME TAX:**

Follow the directions on this website. They give an example to show you how to calculate it correctly READ the left side of the screen towards the bottom

1. **YEARLY SALARY AFTER TAXES:**

**Next Subtract your Yearly taxes from your Actual Median Yearly Income** (box 1E) record the difference in box 2B.

1. **MONTHLY SALARY AFTER TAXES:**

**Divide the results in 2B by 12 months to determine your monthly salary after taxes**, record in 2C.

**This number is very important!**

**This is the amount of money you have to spend each month!!!**

**You may NOT go over this amount in YOUR MONTHLY BUDGET.  Good Luck!**

**3)  Housing Expenses**

You will explore some websites to find a place to live.  Whether an apartment or house, you will need to calculate monthly payments.  **You may not live with someone else and you must live in your own apartment or home.**

Living in a house or apartment is your choice.  Each one has their own expenses.  **Keep in mind that homes cost more and have other costs associated with them (Actual Monthly Income should be greater than $5,000 per month)**, but you own it. Buying a home should be a goal of yours, but they can be very expensive.

Homes [**http://www.homes.com**](http://www.homes.com) **or <https://www.zillow.com/>,**

**Apartments:** [**https://www.apartmentguide.com/, or**](https://www.apartmentguide.com/,%20%20or)[**http://www.forrent.com/**](http://www.forrent.com/)

***THINGS TO REMEMBER***

***FOR HOMES:***

* Unless you make **more than $60,000** you should probably choose an apartment
* Assume you have **6% interest over 30 years (if purchasing a home)**.
* Find the Monthly payment. Record this information in box 3a

***APARTMENTS: read below***

* **For apartments, you do not pay for property taxes, box 3b.**
* **Most apartment require apartment insurance you can assume you would pay $20.00 a month for renters insurance or $240.00 a year in box 3c.**
* **REMEMBER THAT if you have a pet you must include the pet rent which is normally like $10-20 more a month**

**Record the monthly rent or monthly mortgage amount in the first box, the type is either house or the type of apartment Studio, Flat, or Town home, and #rooms is the number of bedrooms in the home.**  Record all 3 results in box 3a

**3a)  Rent/Mortgage: Type: # Rooms:**     

**b)**  **Skip this step if renting an apartment.**

**If you buy a home you must determine the yearly property taxes, apartments do not have taxes.**  Take the price of the home and find **3% of the total value of the home**. Remember turn 3% into a decimal and multiply by the total cost of the home. This is your yearly property taxes.  Divide this number by 12 to find your monthly property taxes. Record both results in 3b

**3b)  Property Taxes per Year: Property Taxes per Month:**

**3c)  For apartments:**

If you want apartment insurance it will cost you **$20.00 per month or $240.00** a year. Record your results in 3c.

**For homes:**

You must also have **home owners insurance** which is **1% of the value of the home**.  Find 1% of the total value of the home.  Next divide that by 12 to determine the monthly insurance payment.   Record your results in 3c.

**3c)  Yearly Home Insurance:   Monthly Home Insurance: **

**3d)**  **Add the Mortgage , Monthly Taxes, and Monthly Insurance together.**

This is the total expenses of your house or apartment per month.  Record your results in 3d

**d)  Total Monthly Home Cost: **

**4)  Vehicle Payments**

**YOU CAN ONLY USE CARS.COM FOR THIS PROJECT**

HOLD CTRL AND CLKICK THE LINK -> Research web sites ([Cars.com](http://cars.com/go/index.jsp))

Use the websites above to find a vehicle.  Do you want a car, motorcycle, or do you want to ride the bus?  You will need to determine what kind of vehicle you will purchase (if your income allows you to do so) and calculate monthly payments along with insurance and gas.  When searching for a vehicle you must purchase it within 300 miles of Douglasville, GA.

**You may not buy a car from someone living in California or some other place far away and the minimum cost for your car needs to be at least $15,000 if used and $25,000 with less than 60,000 miles on it.**

**ATTENTION, ATTENTION: The CAR PAYMENT shown once you click the car is NOT CORRECT. YOU MUST SCROLL DOWN TO THE BOTTOM OF THE SCREEN AND ENTER THE INFORMATION IN STEP C in the BOX under Calculate your Car Payment correctly!!!!**

1. **VEHICLE MODEL, TYPE, COST (TOTAL COST OF CAR)**

Record the **model and type of vehicle** along with the cost in box 4a   (Save picture of the car and the details)

**A)  Vehicle Model: Type: Cost:**

**B)  TAXES ON VEHICLE:**

**1st Blank TAXES ON VEHICLE:** Just like everything else in the world you must pay tax on a car purchase.  **To find the taxes for the vehicle find 8.25% of the cost of the vehicle in box 4a.** Remember **8.25% as a decimal x the cost of the car.**  Record this number in box 4b.

**2ND BLANK - TOTAL COST:** Next add the Cost of the vehicle to the tax.  Record this in the second box in 4b.  This is the total cost of the vehicle.

**B)  Taxes on Vehicle: Total Cost:**

1. **YEARLY CAR PAYMENT INTEREST RATE:**

**1ST BLANK INTEREST RATE -** Just like homes you must borrow money from a bank to buy a vehicle.  New cars and used cars have different rates and number years. Write the % from the box that fits your car.

**2nd BLANK – MONTHLY CAR PAYMENT:** (Scroll down on car website until you see

***CAR PAYMENT CALCULATOR* )**

You must pay interest on a vehicle that you are buying. New and used vehicles have different interest rates. You DO NOT have a down payment so enter ZERO.  
***New Cars   5% Interest over 5 years   
    Used Cars 8% Interest over 3 years***

Take the total cost of the car box 4b and use the information above to calculate the monthly cost of your car.

Record this in the highlighted box 4c Monthly Car Payment

**c)  Yearly Car Payment Interest Rate:  Monthly Car Payment:**

**D) GAS FOR VEHICLES & E) CAR INSURANCE:**

 Next you must determine how much gas and how much insurance costs for your vehicle.  Based on the size of the vehicle use the chart to record your information for box d) and e).  If you do not know how many cylinders the vehicle has, please read the description of the vehicle on the website OR ASK GOOGLE

Website: Gas and Car Insurance Chart (<http://mathninja.org/wp-content/uploads/2013/05/Automobile-Information.htm>) **THE VALUES IN THIS CHART HAVE NOT INCREASED FOR OF HAVING A SPORTS CAR/SUV/ OR LUXURY CAR. SO, YOU HAVE TO MULTIPLY THE INSURANCE VALUE BY 1.50 TO GET YOUR MONTHLY COST FOR INSURANCE! If you choose an SUV, SPORTS CAR or LUXURY VEHICLE, it cost more to insure these types of vehicles**

**d)  Gas for Vehicle:**

**e) Car Insurance:**

**f)**  Now add the total in the 3  yellow highlighted boxes this is your total monthly vehicle expenses. Record this amount in box 4f.

 **5)** **Utilities**

**a)** you will need to budget money for your utilities.  Keep in mind different size homes cost different amount to heat, cool, etc.  Remember this when choosing your home.

Website:  [Utilities Chart](http://mathninja.org/wp-content/uploads/2013/05/Home-Information.htm) (<http://mathninja.org/wp-content/uploads/2013/05/Home-Information.htm>

**YOU MUST ADD $100 THE VALUE OF ELECTRICITY** if u have a house or apartment with 2 bedrooms or more

**YOU MUST CHANGE CABLE TO** **$150 Xfinity/AT&T/Spectrum** with Combo Plan for Cable &Internet. $50 is the basic version of cable and only includes about 20 local channels. (No Sports, No movies, No On-Demand)

**IF YOU CHOOSE TO ONLY HAVE NETFLIX or a FIRESTICK,** you have to have internet and you will need a faster version of the internet to stream movies, games, and other things so your internet will be $70

* 1. **Electric: Gas and Water: Cable:  Telephone:Internet:**
  2. Nextadd the total monthly cost for each utility and put the total in box 5b.  This is your total monthly utilities cost.
  3. **Total Monthly Utilities Cost: **

**6)   Living Expenses**  
     
 **a)**  Now determine your other expenses: food, cell phones, pagers, health insurance, clothing, entertainment, savings accounts, and miscellaneous items.  Certain parts of this section have minimum amounts you can spend on them.

|  |  |  |
| --- | --- | --- |
| **Things to Remember.** | | |
| You must spend at least the minimum listed amounts for **Food, Clothing, Entertainment,** and **Miscellaneous Items.** | | |
| **Miscellaneous Items**include toiletries, cleaning supplies, and household supplies | | |
| **You DO have to have Health Insurance**.  Co-pay is the amount you have to pay extra for visiting the doctor’s office. The deductible is how much you have to pay before the insurance will pay anything! | | |
| **Emergency Funds** are always good to have when you need a little extra money for something**, SO you DO have to have one.** | | |
| You **must** have a home phone or a cell phone, or both. | | |
| Any other things you may want for your home, such as a pet, plasma screen TVs or anything else would go into this section. | | |
| **Minimum amounts to spend if you eat more or spend more than you SHOULD INCREASE the amounts in these boxes** | |
| **Expenses** | **Cost** |
| **Groceries (food only)** | $400.00 - $450 |
| **Clothing** | $150.00 |
| **Just a home phone.** | $39.99 |
| **Cell phone without home phone** | $69.99 |
| **Both home and Cell phone.     ($50.00 each)** | $100.00 |
| **Entertainment**  **(movies, gaming, anything you do for fun)** | $250.00 |
| **High Deductible Health Insurance with co-pay of $50.00**  **$10,000 Deductible** | $125.00 |
| **Good Health Insurance with $25 co-pay only no deductible** | $175.00 |
| **Miscellaneous (anything else; fast food; shopping; cosmetics; games; video; security alarm; deodorant, lotion, toothpaste, cleaning supplies, laundry detergent, soap, contacts )** | $150.00 |
| **Pet (food, toys, health insurance)** | $70.00 |

***OTHER EXPENSES***

Now add the totals in box a) together and record your total in box b) this is your Total Monthly Living Expenses.

**b)  Total Monthly Living Expenses: **

**7)   Total Monthly Budget -**

**THE MOST IMPORTANT STEP  
  
You now must find the total amount of your expenses per month.**

**a)** Record once again the total from box 2c (Monthly Salary after Taxes), so that you can easily reference it during this last section.  Remember this is the total amount of money you have to spend each month on all your bills.  **You cannot go over this amount per month.**

**a)  Total Monthly Earnings: **

b) Add the totals of boxes 3d, 4f, 5b, and 6b together. Record in box 7b.

**b)  Total Monthly Expenses: **

This is your total monthly expenses.  ***Was this total less than your Monthly Salary after taxes?***

If so you have some money left over to invest in stocks/bond/cds/or just save.  If it's more than your monthly total you must go back and adjust your monthly expenses to fit your salary.  Maybe you can't afford a home, a car, or your cell phone.

**c)**  **Any money left over should be put into your savings account box 7c and used for any emergencies of life, such as car repairs, doctors’ visits, or psychiatric counseling**.  It is always recommended to save about 20% to 30% of your income each month, but the choice is up to you.

* 1. **Savings Amount per Month: **

**Section 4: Are You Ready For Life After High School? 33.3% of your Grade**

**Reflections and Experiences – Final Grade**

Include 2 slides to answer the following:  Font: Times New Roman, Georgia, or Verdana, double-spaced, indent each paragraph 5 spaces, and each paragraph must be 5 full sentences. Font size-14:

Prompts:

SLIDE 1 (Please type a separate paragraph 7-8 sentences for each question below)

**Everyone should answer this question and then choose OPTION 1 OR OPTION 2**  
**After working on this project, you probably found that life in general, is pretty expensive. What lessons did you learn from this project?  How can these lessons help you better be prepared for your future?**

**OPTIONS 1**

How does the cost of college factor into your decisions about living on your own? Does college sound more appealing to you today than it did before you worked on this project? Do getting good grades in school seem more important now?

**OPTION 2 :** After using the Job web site I want you to **compare and contrast** the job you picked in the project to the job you want to have when you graduate college.  Do both jobs sound fun to you?  How much money do you make at each job? What steps do you have to take in order to have your dream job in the future instead of having to settle for a different job?  How much college do you need for each job?

**FINAL CHECK LIST OF REQUIREMENTS**

THIS PROJECT SHOULD BE COMPLETED USING GOOGLE SLIDES with PLENTY OF ACTUAL PICTURES OF YOUR APARTMENT/HOME (screen shot), VEHICLE w/ Calculations **Calculator** (screen shot), and other creative pictures

**(YOU MUST SHARE WITH ME Sylvia.Anderson@dcssga.org)**

PLEASE DO NOT TYPE EVERY SINGLE NUMBER FROM YOUR WORKSHEET INTO THIS POWERPOINT…..give the IMPORTANT NUMBERS ONLY

**I WILL NOT TOLERATE IT BEING LATE AS YOU HAVE 2 WEEKS TO COMPLETE IT**

**IT IS DUE DURING YOUR CLASS PERIOD ON MAY 20TH!!! AGAIN, IT IS DUE BY THURSDAY NEXT WEEK, YOUR SCHEDULED CLASS DAY. NO EXCEPTIONS!!!**

1. **Completed Worksheet (Edit in Kami) 33%**
2. **PowerPoint Presentation 33%**
3. **REFLECTIONS (Required and either Option 1/Option 2 33%**

**DUE MAY 20TH YOUR CLASS PERIOD!!!**