



Bayonne Public Schools

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Director of Mathematics

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Dear Parents/Guardians of students entering PreCalculus in September 2024,

This summer your child will have the opportunity to prevent summer learning loss and to build a strong foundation in real-world mathematical applications grounded in Financial Literacy. He or she will also have the opportunity to earn up to ten extra credit points on the first mathematics test of the 2024-2025 school year.

Note: The assignment is attached to this letter. In order to receive credit, students must show ALL written work and submit it to their teacher by September 18, 2024.

Also, please do not wait until the end of summer to begin these skills.

A handwritten signature in black ink, appearing to read "Dawn Aiello".

Dawn Aiello
Director of Mathematics

NAME: _____

Summer Bridges Buying a House Project

Introduction

It is a very big decision to become a first-time homeowner. There are many things that need to be considered. Three important factors are the price of a home, mortgage interest rates and a person's salary. In this project we will look up current values for these three factors and compare them across the United States. We will see how current interest rates affect the mortgage a person can afford.

Part I City Comparison

Choose three cities in which you would like to live in **New Jersey**. Use google to retrieve the information below. Fill in the table below.

City/State	3 Bedroom Home Price	Property Tax Rate

Part II Shop for a House

Use <http://new.realtor.com> Or <https://www.zillow.com/> to shop for three homes using the three cities you chose above. Your homes must be **averaged-priced** homes price based on the 3-bedroom/2 bath home price in each of your cities.

City/State	Square Footage	Total Price of Home	Bedrooms	Bathrooms	Features

Part III Shop for a Mortgage

$$M = \frac{P \cdot r(1+r)^n}{(1+r)^n - 1}$$

Here is a video explaining how to use this formula:

https://www.youtube.com/watch?v=6bLg_Ex0A-4

Use <http://www.bankrate.com/brm/mortgage-calculator.asp> to calculate the cost of a 15 and 30 year fixed mortgage for all five of your homes. Fill in the table below.

City _____

	15-Year Fixed	30-Year Fixed
Price of Home		
Down Payment Amount 20%		
Amount Borrowed (Price of Home – Down Payment Amount)		
Interest Rate (as of 5/20/24)	6.732%	7.544%
Payment		
Total Paid Back to Bank (principal + interest)		

City _____

	15-Year Fixed	30-Year Fixed
Price of Home		
Down Payment Amount 20%		
Amount Borrowed (Price of Home – Down Payment Amount)		
Interest Rate (as of 5/20/24)	6.732%	7.544%
Payment		
Total Paid Back to Bank (principal + interest)		

City _____

	15-Year Fixed	30-Year Fixed
Price of Home		
Down Payment Amount 20%		
Amount Borrowed (Price of Home – Down Payment Amount)		
Interest Rate (as of 5/20/24)	6.732%	7.544%
Payment		
Total Paid Back to Bank (principal + interest)		

Part IV Choose Your City and House

Based on the information regarding housing and mortgage costs, which city/house would you choose?

City/State?	
15 or 30 Year Fixed Mortgage?	
Monthly Payment?	
Estimated Property Tax Amount?	
Estimated Closing Costs (Purchase Price of Home/1,000) * 18.61	
Why did you choose this house?	

Part V Affordability

What type of job do you think could support the home of your choice? Pick three occupations and find out what the median salary is for each. Use <https://www.bls.gov/ooh/> which gives on-line access to the **Occupational Outlook Handbook** to find the median salaries for your chosen careers. Click on “Index to the Handbook,” select the occupation you are interested in, then click on “Earnings.”

Career	Median Annual Salary	Taxes (Median Annual Salary * .25)	Median Annual <u>Net</u> Salary (Median Annual Salary – Taxes)	Monthly Salary (divide median annual net salary by 12)	Amount Available for House Payment (no more than 28% of <u>monthly</u> salary)	Can you afford the house of your choice with this career? Yes/No