***Personal Finance Project*** ***Name****: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

***Formulas:***

1. A credit card holder has $8,000 on a credit card that charges nominal rate of interest (compounded 12 times a year. If the card holder wants to pay off the credit card in 5 years, how much will the card holder need to pay (assuming that the card holder does not charge anything new to the card)?
2. If the card holder is a low-risk customer, and the credit card company will charge 14% annual rate of interest (compounded 12 times a year). Compute:
3. **[5 points]** Monthly payment:

Directions:

* Use one of the given formulas to show formula and your work.
* Copy and paste formula and enter given values into the formula.
* For example, use a desmos.com calculator to compute monthly payment.
* Type the result of your computations.

<Enter the formula, work, and answer here!>

1. **[5 points]** Compute the total amount of money the card holder will pay:

<Enter the formula, work, and answer here!>

1. **[5 points]** Total interest amount the credit card company will earn:

<Enter the formula, work, and answer here!>

1. If the card holder is a higher-risk customer, and the credit card compony will charge 24.5% annual nominal rate of interest (compounded 12 times a year). Compute:
2. **[5 points]** Monthly payment:

<Enter the formula, work, and answer here!>

1. **[5 points]** Total amount of money the card holder will pay:

<Enter the formula, work, and answer here!>

1. **[5 points]** Total interest amount the credit card company will earn:

<Enter the formula, work, and answer here!>

1. Use attached Microsoft Excel Dashboard in the link provided in the directions to the project.

* Open and download the Dashboard.
* On the Dashboard in the Grey Box enter given values:
* Observe changes in monthly payments, values in tables, and graphs.
* Copy the graph from the Dashboard and replace the example graph provided bellow.

1. **[5 points]** Display graphs and table here (Bellow you can see the Microsoft Excel graphs’ example for case: loan amount is

$10,000, low-risk interest rate and higher-risk interest rate is , time to payout loan is 5 years).

Replace the Example of the graph bellow:

Chart

Description automatically generated

1. **[5 points]** Using graphs calculate the difference in the interest amount of money earned in 5 years by the credit company charging versus interest rate.

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1. **[10 points]** Keep all given values the same and only decrease the interest rate (Use Dashboard), state your observations

* Monthly Payment: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Accumulated Interest Amount: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Total Loan Amount: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Are these values increased or decreased in comparison to a given problem conditions: \_\_\_\_\_\_\_\_\_

1. **[10 points]** Keep all given values the same you only decreased the number of payments to (Use Dashboard), state the following values:

* Monthly Payment: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Accumulated Interest Amount: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Total Loan Amount: low risk\_\_\_\_\_\_\_\_\_\_\_\_ high risk\_\_\_\_\_\_\_\_\_\_\_\_
* Are these values increased or decreased comparison to a given problem conditions: \_\_\_\_\_\_\_\_\_

1. Use the Extra Payments spreadsheet to observe how extra payments can reduce the interest amount.
2. **[10 points]** Every month you make additional payment of 50 dollars, determine:

* Accumulated Interest Amount: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Total Loan Amount: low risk\_\_\_\_\_\_\_\_\_\_\_\_ high risk\_\_\_\_\_\_\_\_\_\_\_\_
* Total Interest Amount Saved: low risk\_\_\_\_\_\_\_\_\_\_\_\_ high risk\_\_\_\_\_\_\_\_\_\_\_\_

1. **[10 points]** Every April you are receiving 1200 dollars return on income tax, and you can apply this amount as extra payment on the credit card loan:

* Accumulated Interest Amount: low risk \_\_\_\_\_\_\_\_\_\_\_\_ high risk \_\_\_\_\_\_\_\_\_\_\_\_
* Total Loan Amount: low risk\_\_\_\_\_\_\_\_\_\_\_\_ high risk\_\_\_\_\_\_\_\_\_\_\_\_
* Total Interest Amount Saved: low risk\_\_\_\_\_\_\_\_\_\_\_\_ high risk\_\_\_\_\_\_\_\_\_\_\_\_

1. **[20 points]** In 3-4 sentences state your conclusion: (You can state your observations, and also discuss options to reduce

the person losses).