**Car Buying Project**

**Background:** You are looking for a car that costs no more than $15,000. To help you make a decision, you need to find and compare 1 new and 1 used car to buy. Once you complete all tasks and questions below, you will need to make a poster to summarize your findings. The poster must include the pictures and details of each car, the monthly payments and your answers to questions 1 and 2 (you may include more on the poster, but this is the minimum).

**Task 1: Shopping for Cars**

Look online (autotrader.com) or in advertisements in a newspaper to select your cars. Note: you need to know the PRICE of the car, NOT a lease or monthly amount.

Cut out or print the picture of the cars you would like to buy. Remember, you need 1 new and 1 used car.

List the details of the car underneath the picture (this includes, the make, model, year, color, number of miles, and features, such as a CD player, leather seats, etc).

**Task 2: Calculating the cost of paying for each car**

You have no money for a down payment, so you will take a loan for the entire price of the car. We will assume you get a loan with compound interest, so you will be using the formula, , where *A* is the total amount you will pay, *P* represents the



amount of money you need to borrow, *r* represents the interest rate (as a decimal), *n* represents the number of times the loan will compound each year and *t* represents the number of years the loan will be.

**New Car:**  Interest rate is 1.9%, compounded annually; you will get a 5-year loan.

Show your math to calculate *A*, the total amount you will pay.

Now calculate your monthly payment (the total divided by the number of months of the loan).

**Used Car:** Interest rate is 7.9%, compounded annually; you will get a 5-year loan.

Show your math to calculate *A*, the total amount you will pay.

Now calculate your monthly payment (the total divided by the number of months of the loan).

**Part 3: Reflections about interest rates**

1. Which car would you buy and why?

2. What effect does a higher interest rate have on the total amount you pay?

3. If you buy a car and have poor credit (you have not shown that you are good at paying back loans on time or you have not borrowed money before), you have to pay a higher interest rate. For the used car you chose above, calculate the total cost if you have poor credit and the interest rate is 14.9%. Show your math below.

4. What effect does good or poor credit have on how much you pay for a car?

5. If you have a down payment when you buy a car, it can save you money. Assume you saved $5,000 for the new car. Calculate what the monthly payments would be if you paid $5,000 in a down payment and then took a loan for the rest (still at 1.9% interest).

6. Sometimes you can get a longer loan. Assume the new car you found can be purchased at 1.9% interest, compounded annually, and you can get an 8-year loan. Calculate the total cost (*A*) and the monthly payments. Is this a good option? Why or why not?

7. What things will you consider when purchasing a car in the future?