



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, $A = P\left(1 + \frac{r}{n}\right)^{nt}$, 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?