Financial Algebra Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chap 4 Day 7 Per. \_\_\_\_\_\_\_\_\_

Buying a Car

There are three variables, or numbers, that are used to calculate your car payment. They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. You can play around with these numbers to get the lowest possible monthly payment but you will pay more in interest. This packet will explore some of these basic tradeoffs. As a general guideline, your car payment should be no more than \_\_\_\_\_ percent of your monthly take home pay.

The first consideration that comes into play is your credit score. Your credit score is based on how well you have paid your bills and any money you have borrowed in the past, as well as how much you have on your credit cards. Banks use a tiered finance system – the better your credit score, the better risk you are for the bank, and the lower the interest rate you’ll be able to get.

Suppose you need to borrow $22,000 for a car, and will pay it back over five years. Today, if you have an Excellent credit score you could get a rate of about 3.24%, a Good credit score and your rate will be about 3.89%, a Fair credit score and your rate will be about 4.02%. If your credit score is “rebuilding” your rate will be about 7.7%, or higher. If you are rebuilding your credit, you may struggle to get financing from a bank. There are car dealers who will get you into a car, but you may pay a rate of about 15%, or even higher. (Rates from [Capital One Auto Financing](https://www.capitalone.com/cars/))

1. Go to the website [www.bankrate.com.](http://www.bankrate.com/) Click on the Calculators tab and select Auto Payment Calculator. Complete the following calculations for a **$22,000 loan for five years**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Credit Score | Interest Rate | Monthly Payment | Total Cost of Car | Amount of Interest Paid |
| Excellent | 3.24% |  |  |  |
| Good | 3.89% |  |  |  |
| Fair | 4.02% |  |  |  |
| Bad | 7.70% |  |  |  |
| Poor | 9.09% |  |  |  |

Getting the best interest rate is important. Call your bank, AAA, or credit union before going to the dealer - it can save you money sometimes.

2. One of the first decisions to make is how much down you will put on a car. The more down, the less you have to borrow, so the lower your monthly payment will be. People will often have some money saved, but want to use it for other things, and don’t want to spend it all on a car. So, how much of your savings to spend?

Suppose you want to buy a car for **$22,000**. You can get a loan at **4% for 60 months**. You have $5000 in total savings. Using the online calculator, complete the following table (round answers to the nearest dollar):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Amount down | Amount of Loan | Monthly Payment | Total Cost of Car | Amount of Interest Paid | % of car paid in interest |
| $500 |  |  |  |  |  |
| $1,000 |  |  |  |  |  |
| $2,500 |  |  |  |  |  |
| $3,000 |  |  |  |  |  |
| $5,000 |  |  |  |  |  |

How do you find the total cost of the car?

Total cost of car = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How do you find the amount of interest paid?

Amount of interest paid = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What do you think you would do? Why?

3. Two other considerations are how long you want to pay off your car and if you are buying new or used. The longer the loan, the lower your monthly payment. But, the longer the loan the more interest you will pay for the car. Also, if the car is used, the interest rate will be higher . The following interest rates were recently advertised on the internet:

Rates as of 9/6/17 for $15,000-$25,0000 on https://www.usaa.com

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | 12-36 months | 48 months | 60 months | 72 monthsRates as of 9/6/16 for $15,000-$25,000 onhttps://www.usaa.com  |
| New | 2.99% | 2.99% |  2.99% | 2.99% |
| Used | 3.49% | 3.49% | 3.49% |  3.49% |
|  |  |  |  |  |

4. You want to buy a **$22,000 new car and will put $800 down**. Using the interest rates in the table above (and the online calculator) complete the following table (round all answers to the nearest dollar):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Length of Loan | Monthly Payment | Total Cost of Car | Amount of Interest Paid | % of car paid in interest |
| 2 years |  |  |  |  |
| 3 years |  |  |  |  |
| 4 years |  |  |  |  |
| 5 years |  |  |  |  |
| 6 years |  |  |  |  |

What do you think you would do? Why?

5. Used cars are less expensive than the same model new car. They are also at a slightly higher interest rate. Suppose you could buy a new car for

$22,000 or the same model car that is one year old for $20,000. You will put $1,000 down and want a 4 year loan. Use the interest rates from question 3. What would you do?

First, what calculations would be helpful?

Do these calculations.

Use these numbers, as well as your personal preference, to explain which car you would choose and why.

**REFLECTION: Explain the relationship between interest rate, down payment, and length of loan as it relates to car loans.**