

Lesson 3: Financing a New Vehicle

Purchasing a New Vehicle through Financing

Because vehicles are expensive, many consumers cannot afford to pay for a vehicle outright. Instead, many consumers finance the purchase with a loan from the automobile dealership or financial institution.

When you take out a loan from an automobile dealership or financial institution, the total amount you pay is greater than if you were to pay for it outright at the time of purchase.

The total you pay when you finance the purchase of a vehicle is the *deferred payment*.

The difference between the deferred payment and the total purchase price is the *finance charge*.

A car loan is a type of personal loan. In order to calculate monthly payments based on this loan, you need to consult **an amortization table**.

The amortization table indicates the monthly payment required to pay a \$1000 loan for a given time period and at a given interest rate.

Monthly Vehicle Loan Payments per \$1000 borrowed					
Interest Rate (%)	Years to Repay Loan				
	1	2	3	4	5
5.00	\$85.61	\$43.87	\$29.97	\$23.03	\$18.87
5.25	85.72	43.98	30.08	23.14	18.99
5.50	85.84	44.10	30.20	23.26	19.10
5.75	85.95	44.21	30.31	23.37	19.22
6.00	86.07	44.32	30.42	23.49	19.33
6.25	86.18	44.43	30.54	23.60	19.45
6.50	86.30	44.55	30.65	23.71	19.57
6.75	86.41	44.66	30.76	23.83	19.68
7.00	86.53	44.77	30.88	23.95	19.80

Example 1: Moira Wheeler is able to make a down payment of \$5000 on the new mid-size automobile she purchases in for \$20 340.32. In order to finance the remaining amount, she takes out a three-year car loan at a fixed interest rate of 6.25%

- a) Calculate her monthly payment for the automobile.
- b) Calculate her deferred payment for the automobile.
- c) Calculate her finance charge for the automobile.

Solution:

a) Amount of the loan = Purchase Price - Down Payment
= 20340.32 - 5000
= \$15 340.32

Using the amortization table on the previous page, along with the interest rate of 6.25% and the loan period of 3 years, we find the rate of \$30.54 per \$1000 of loan.

$$15\ 340.32 / 1000 \times 30.54 = \$468.49$$

Moira's monthly car payment will be \$468.49

Note: This calculation is similar to finding the monthly mortgage payments.

- b) Since Moira is repaying the loan in 3 years and there are 12 payments per year, she makes 36 payments overall.

$$36 \times 468.49 = \$16\ 865.76 \text{ loan payment}$$

Moira pays \$16 865.76 overall for the loan payment.

To calculate the deferred payment, we do the following:

Deferred Payment = Loan Payment + Down Payment
= 16 865.76 + 5000
= \$21 865.76

The deferred payment is \$21 865.76. This is the amount Moira pays over the life of the loan (this includes paying the purchase price and interest).

c) The Finance Charge = Deferred Payment - Total Purchase Price
= 21 865.76 - 20340.32
= \$1 525.44

The finance charge is \$1 525.44. This is the amount of interest Moira pays over the 3-year period of the loan.

Example 2: The cost of Toyota Four Runner is \$54 000 plus taxes. Toyota is offering 7% financing for a 3-year loan with a down payment of \$4 050. Use the table to determine the monthly payment and the total cost of purchasing the vehicle.

1. Total Cost (Price + taxes) =

2. Loan Required (cost - down payment) =

3. Monthly Payment (using chart) =

4. Total Cost of Purchasing Vehicle
(monthly payment \times # of months + down payment) =

5. Re-Answer questions #3 and #4 but change the loan payment to 5 years.

Monthly Payment =

Total Cost of Purchasing Vehicle =

Assignment 3: Purchasing a Vehicle through Financing

Answer the following questions neatly and **show work** like in the examples given.

1. Carly is looking to buy a Honda Pilot that sells for \$43 090 plus taxes. A down payment of \$3000 is required. The Honda dealership is offering a loan rate of 6.75% over 4 years. Determine:

- a) the total cost
- b) the amount of loan required
- c) the monthly payment
- d) the total amount paid for the vehicle by the end of 4 years

2. Rob is enjoying the spring weather and feels that he needs to buy a Mustang Convertible that sells for \$30 249 plus taxes. A down payment of \$2050 is required. The bank offers Rob a 3 year loan at 5% interest. Determine:

- a) the total cost
- b) the amount of loan required
- c) the monthly payment
- d) the total amount paid for the vehicle by the end of 3 years

3. **Option 1: Purchase.** A car costs \$26 000 plus sales taxes. There is a down payment of \$7500. The car is purchased with a loan of 7% and paid monthly for 5 years. Determine the following.

- a) What is the total cost of the car, including taxes?
- b) What is the total amount to be borrowed?
- c) What is the monthly payment on the loan?
- d) What is the total amount paid for the car, including the down payment?

Option 2: Lease and Purchase. There is no down payment. The lease payment is \$325 per month, plus GST and PST. After 5 years, you purchase the car for \$7500, plus GST and PST. Determine the following.

- a) What is the monthly lease payment, including taxes?
- b) What is the total of the lease payments over the 5-year period?
- c) What is the total amount paid for the car after the purchase?

Which is the better option? Why?

4. You want to purchase a new car with a purchase price of \$55 500, plus GST (5%) (no PST). There is a down payment of \$5000. The car is purchased with a loan of 6% and paid monthly for 4 years. Determine the following.
- a) What is the total cost of the car, including taxes?
 - b) What is the total amount to be borrowed?
 - c) What is the monthly payment on the loan?
 - d) What is the total amount paid for the car, including the down payment?
5. A new car with a purchase price of \$15 300, plus GST and PST. There is a down payment of \$10 000. The car is purchased with a loan of 5% and paid monthly for 2 years. Determine the following.
- a) What is the total cost of the car, including taxes?
 - b) What is the total amount to be borrowed?
 - c) What is the monthly payment on the loan?
 - d) What is the total amount paid for the car, including the down payment?

6. Max Trucker (from question 6) is able to make a down payment of \$3500 on the four-wheel-drive vehicle. In order to finance the remaining portion, he takes out a 4-year car loan at a fixed interest rate of 5.5%.

a) Calculate his monthly payment for the vehicle.

b) Calculate his deferred payment for the vehicle.

c) Calculate his finance charge for the vehicle.

7. Explain the difference between purchasing a vehicle outright and purchasing a vehicle through financing.