

Auto Loan Worksheet

Name Key

Scenario #1: Ann is buying an Acadia for \$37,287 with a \$3000 dealer incentive rebate and will put \$1,000 down. She secures financing through her credit union for a 60-month loan at 2.95% APR compounded monthly (monthly payment per \$1,000 is \$17.95). Find the principal loan amount, monthly payment, total loan amount, total interest paid on the loan, and total purchasing cost of the vehicle.

Principal loan amount \$ 33,287
 Monthly payment \$ 597.50
 Total loan amount \$ 35,850
 Interest paid \$ 2,563
 Total purchasing cost \$ 36,850

$$37287 - 3000 - 1000 = \$33287$$

$$33.287 \times 17.95 = \$597.50$$

$$597.50 \times 60 = \$35850$$

$$35,850 - 33,287 = \$2563$$

$$35850 + 1000 = \$36850$$

Scenario #2:

Ron wants to take out a \$38,407 loan for a new Chevy Silverado through his local credit union. He has several plans to choose from.

	Time	APR	Monthly payment per \$1000 financed
Plan 1:	24 Months	2.75%	\$42.88
Plan 2:	36 Months	2.75%	\$28.98
Plan 3:	48 Months	2.75%	\$22.03
Plan 4:	60 Months	2.75%	\$17.86
Plan 5:	66 Months	2.75%	\$16.35
Plan 6:	72 Months	2.75%	\$15.09
Plan 7:	78 Months	3.45%	\$14.34
Plan 8:	84 Months	3.95%	\$13.65

} x 38.407

for vehicles valued at \$22,500 or more
 for vehicles valued at \$30,000 or more
 for vehicles valued at \$35,000 or more

Using the information above, complete the table below.

Plan	Monthly payment MP	Total payment TP	Total interest paid TIP
24 month	1,646.89	39,525.36	1,118.36
36 month	1,113.03	40,069.08	1,662.08
48 month	846.11	40,613.28	2,206.28
60 month	685.95	41,157.00	2,750.00
66 month	627.95	41,444.70	3,037.70
72 month	579.56	41,728.32	3,321.32
78 month	550.76	42,959.28	4,552.28
84 month	524.26	44,037.84	5,630.84

$MP \times \# \text{ months}$

$TP - P$
38,407

- If Ron has an **annual** salary of \$ 42,500 after taxes and budgets 20% for his auto loan, which monthly plans could he choose? Explain your reasoning.

$42500 \times .20 = \$8500$ annual
 $8500 \div 12 = \$708.33$ monthly

60 - 84 month loans
b/c these are less than \$708.33
- Which plan would you recommend Ron choose? Explain your reasoning. *ANS VARY*

60 month loan fits the \$708.33 budget & will save Ron \$ because less interest is paid than the 66 - 84 month plans
- If Ron wanted to budget only 15% of his after-tax salary for his auto loan, which monthly plans could he choose? Explain your reasoning.

$42500 \times .15 = 6375$ annual
 $6375 \div 12 = \$531.25$ monthly

84 month plan is the only plan less than \$531.25 budget.
- Which plan would you recommend Ron choose? Explain your reasoning.

84 monthly plan is the only option less than \$531.25.

Scenario #3:

Alicia is buying a new car for \$42,895 and is able to put down \$3920 with her trade-in and a \$2250 cash allowance. She is planning to finance the loan at her local bank.

- What is the principal loan amount that Alicia will be requesting? \$36,725

$42895 - 3920 - 2250 =$

The bank offers a 60-month loan at three different annual interest rates depending upon Alicia's credit score.

Credit Score	APR	
780+	3.25% (monthly payment per \$1,000 is \$18.08)	36.725×18.08
670-780	3.75% (monthly payment per \$1,000 is \$18.30)	36.725×18.30
620-670	4.75% (monthly payment per \$1,000 is \$18.76)	36.725×18.76

Determine the monthly payment, total payment and total interest payment for the three different credit scores.

Complete the table below.

Credit Score	Monthly Payment	Total payment	Total interest paid
780+	663.99	39,839.40	3,114.40
670-780	672.07	40,324.20	3,599.20
620-670	688.96	41,337.60	4,612.60

- Compare the amount of money saved by maintaining a 780 + credit score instead of a 670-780 credit score.

$$\begin{array}{r}
 3599.20 \\
 - 3114.40 \\
 \hline
 \$484.80 \text{ OR } \$8.08 \text{ a month}
 \end{array}$$

MP x 60 months TP - 36725

3. Compare the amount of money saved by maintaining a 780+ credit score instead of a 620-670 credit score.

$$\begin{array}{r} 4612.60 \\ \underline{3114.40} \\ \$1498.20 \end{array} \quad \text{or} \quad \$24.97 \text{ a month}$$

4. Compare the amount of money saved by maintaining a 670-780 credit score instead of a 620-670 credit score.

$$\begin{array}{r} 4612.60 \\ \underline{3599.20} \\ \$1013.40 \end{array} \quad \text{or} \quad \$16.89 \text{ a month}$$

5. Explain why maintaining a good credit score is important when applying for a loan.

A good credit score will give the consumer a lower APR which will save money.

Determine which dealer incentive is the better deal for each scenario.

Scenario #1: A Chevrolet Tahoe for \$57,405

Option 1: 0% for 72 months through GMAC plus \$2,000 trade-in allowance

Option 2: \$2,000 customer cash allowance plus \$1,500 Tahoe package discount plus \$2,000 trade-in allowance with financing from a credit union at 60 months 2.95% APR compounded monthly (monthly payment per \$1,000 is \$17.95)

Option 1

$$\begin{array}{l} \text{Principal loan amount } \$55,405 \\ 57405 - 2000 \\ \text{Monthly payment } \$769.51 \\ 55405 \div 72 \\ \text{Total loan amount } \$55,405 \end{array}$$

Since 0% interest = No interest paid

Which option is the better deal? Option 1

Option 2

$$\begin{array}{l} \text{Principal loan amount } \$51,905 \\ 57405 - 2000 - 1500 - 2000 \\ \text{Monthly payment } \$931.69 \\ \text{Total loan amount } \$55,901.40 \end{array}$$

Scenario #2: A Chevrolet Traverse for \$47,215

Option 1: \$4,500 rebate with bank financing of 4.75% APR compounded monthly for 72 months (monthly payment per \$1,000 is \$15.99)

Option 2: 0% financing for 60 months through GMAC

Option 1

$$\begin{array}{l} \text{Principal loan amount } \$42,715 \\ 47215 - 4500 \\ \text{Monthly payment } \$683.01 \\ 42,715 \times 15.99 \\ \text{Total loan amount } \$49,176.72 \end{array}$$

Which option is the better deal? Option 2

Option 2

$$\begin{array}{l} \text{Principal loan amount } \$47,215 \\ \text{Monthly payment } \$786.92 \\ 47215 \div 60 \\ \text{Total loan amount } \$47,215 \end{array}$$