

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

mp x # months

TP - P
38,407

1. 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.

$$42500 \times .20 = \$8500 \text{ annual}$$

$$8500 \div 12 = \$708.33 \text{ monthly}$$

60 - 84 month loans
b/c these are less than
\$708.33

2. 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

3. 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.

$$42500 \times .15 = 6375 \text{ annual}$$

$$6375 \div 12 = \$531.25 \text{ monthly}$$

84 month plan is the only plan less than \$531.25 budget.

4. 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.

1. What is the principal loan amount that Alicia will be requesting?

$$42895 - 3920 - 2250 = \$36,725$$

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

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

$$3599.20 - 3114.40 = \$484.80 \text{ OR } \$8.08 \text{ a month}$$

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

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

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

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

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

$$\begin{array}{l} \text{Principal loan amount } \$55,405 \\ 57405 - 2000 \\ \text{Monthly payment } \$769.51 \\ 55405 \div 72 \\ \text{Total loan amount } \$55,405 \\ \text{Since } 0\% \text{ interest} = \text{No interest paid} \\ \text{Which option is the better deal? } \underline{\text{Option 1}} \end{array}$$

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

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

Option 2

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

Which option is the better deal? Option 2