

## Car - Buy or Lease Homework - old

### Purchase formulas:

$$\text{PMT} = A \left( \frac{i}{1 - (1 + i)^{-n}} \right)$$

PMT = payment per period

A = the loan amount

i = the interest rate per payment period

n = the total number of payments

### Leasing Formulas:

**Net capitalized cost** = negotiated price - down payment ~~value~~  
value

**Money Factor:**  $\frac{\text{annual interest rate as a percent}}{2,400}$

### Average Monthly Finance Charge:

$\frac{(\text{net capitalized cost} + \text{residual value})}{2,400} * \text{money factor}$

### Average Monthly Depreciation:

$\frac{\text{Net capitalized capital cost} - \text{residual value}}{2,400}$

term of the lease in months

## Monthly Lease Payment:

$P = \text{Average Monthly Finance Charge} + \text{Average Monthly Depreciation}$

You buy a Corolla with a MSRP of \$21,500. You negotiate a final price of \$20,000 and make a down payment of 10 percent on the \$20,000.

The annual interest rate for a loan or lease is 7% over 60 months.

Remember, Sales tax is 6% of the final price if you purchase the car. If you lease then the sales tax is added AFTER you calculate the monthly payment.

The residual value for a lease is 30% of the MSRP. Use this information for the trade-in as well.

- 1) *What is the* total cost if you purchase the car? 21,200
- 2) What is the amount of the downpayment? 2000
- 3) What is the amount financed? 19200
- 4) What is the monthly payment? 380.18
- 5) What is the total amount repaid for the loan? 22810.80
- 6) What are the finance charges paid? 3610.80
- 7) What is the total cash paid for the car? 24810.80
- 8) What is the net cost of ownership for the 5 years you owned the car? 13,360.80
- 9) Leasing – determine the net capitalized cost of the car. 18,000
- 10) Leasing – determine the Money Factor? 0.002916667

- 11) Leasing – determine the Average Monthly Finance Charge. 71.31
- 12) Leasing – determine the Average Monthly Depreciation 192.50
- 13) Determine the monthly lease payment. Remember to add sales tax as detailed in the original problem. 279.64
- 14) How much will you have paid to lease the car for 5 years? 18,778.40
- 15) Is purchasing or leasing the better deal. Explain why (this is a very straight forward question)
- 16) List the benefits of purchasing.
- 17) List the benefits of leasing.