

Mr. Kaufman: Car - Buy or Lease Homework (New)

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

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

2,400

Average Monthly Finance Charge:

(net capitalized cost + residual value) * money factor

Average Monthly Depreciation:

Net capitalized capital cost - residual value

term of the lease in months

Monthly Lease Payment:

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

You buy a Corolla with an MSRP of \$27,500. You negotiate a final price of \$22,250 and make a down payment of 22 percent after sales taxes of 6%. This is the same information to use if you lease the car as well.

The annual interest rate for a loan or lease is 9.6% APR 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 33% of the MSRP. This amount is also the salvage value if you sell the car for a purchase.

- 1) What is the total cost of the car? $23,585$
- 2) What is the amount of the downpayment? $5,188.70$
- 3) What is the loan amount if you purchase the car? $18,396.30$
- 4) Determine the monthly car payment. 386.81
- 5) What is the interest you paid on the loan? $4,812.39$
- 6) What is the salvage value? $9,075.00$
- 7) How much will you have paid for the car over the 5 year period? $28,397.70$
- 8) At the end of 5 years you sell the car for 33% of the MSRP. What is the net ownership cost to you for the 5 years you owned the car? $19,322.70$
- 9) Leasing - determine the net capitalized cost of the car. $17,355.00$

- 10) Leasing - determine the Money Factor? .004
- 11) Leasing - determine the Average Monthly Finance Charge.
(Assume the net capitalized cost is \$17,355) 105.72
- 12) Leasing - determine the Average Monthly Depreciation
a. (Assume the net capitalized cost is \$17,355) 138.00
- 13) Determine the monthly lease payment. Remember to add sales tax as detailed in the original problem. 258.34
- 14) How much will you have paid to lease the car for 5 years? 20,395.40
- 15) List the benefits of purchasing.
- 16) List the benefits of leasing.

Given the following costs for car tires:

322, 340, 360, 333, 408, 385, 360, 400, 372, 403, 329, 360

- 17) Find the quartiles $Q_1 = 336.50$ $Q_3 = 392.50$
 $Q_2 = 360$ $Q_4 = 408$
- 18) Find the IQR (Interquartile Range) 56
- 19) Find the upper and lower limits. Lower 252.50 Upper: 476.50
- 20) Create a stem and leaf plot from the above data.
- 21) Find the range, mean, median and mode of the above data.
range = 86 mean = 364.33 median = 360 mode = 360
- 22) Jana earned a 78, 84, 87, 92, 90, 86 on his tests. What does she need on the next test to have a mean of 86 on all of the tests? 85

32	2 9
33	3
34	2
35	
36	0 0 0
37	2
38	5