

4.4 Leasing Vehicles

Read Pg. 174 up to the start of Investigation #1

Investigation #1:

Use the table on Pg. 174 to complete the following chart.

You are purchasing a sports car valued at \$22000.

	1	2	3	4	5
	Length of Lease in Months				
	12	24	36	48	60
Residual value	12100	10780	9240	7920	7040
Depreciation (\$)	9900	11220	12760	14080	14960
Average annual cost	9900	5610	4253.33	3520	2992

→ The price to purchase the vehicle at the end of the lease.

	12	24	36	48	60
Residual value	\$14,740.00	\$12,540.00	\$11,220.00	\$9,020.00	\$7,700.00
Depreciation (\$)	\$7,260.00	\$9,460.00	\$10,780.00	\$12,980.00	\$14,300.00
Average annual cost	\$7,260.00	\$4,730.00	\$3,593.33	\$3,245.00	\$2,860.00

Question #3: Pg. 175

N=24
 I%=10.9
 PV=15402.2713
 PMT=-395
 FV=-8500
 P/Y=12
 C/Y=12
 PMT: END **BEGIN**

15402.27
 + 2350

 17752.27

Example #1:

Megan sees an advertisement for her dream vehicle. If the purchase price is \$19,876 or the monthly lease option is \$327 for 48 months financed at 4.2% interest. Determine the purchase price of the car at the end of the lease.

```
N=48
I%=4.2
PV=19876
PMT=-327
▪ FV=■6386.352138
P/Y=12
C/Y=12
PMT: END BEG
```

There are 2 ways in which you can own a car after 3 years. You can purchase the car now or lease the car for 3 years and then purchase it.

Consider a new car with a purchase price of \$18 500.

Using the TVM solver, examine the following two options.

Option 1: Purchase. There is a down payment of \$8000. The car is purchased with a loan of 1.9% p.a., compounded semi-annually, and paid monthly for 3 years. Determine the following.

a) What is the total amount to be borrowed?

$$18500 - 8000 = \underline{\$10,500}$$

b) What is the monthly payment on the loan?

```

N=36
I%=1.9
PV=10500
PMT=300.25466...
FV=0
P/Y=12
C/Y=2
PMT: [ ] BEGIN
    
```

c) What is the total amount paid for the car, including the down payment?

$$\begin{array}{r}
 \underline{\text{Down payment: } \$8000} \\
 \text{Payments: } 36 \times 300.25 = 10809 \\
 \hline
 \text{\$ } 18,809 \\
 \hline
 \end{array}$$

Option 2: Lease and Purchase. There is no down payment. The lease payment is \$325 per month. After 3 years, you purchase the car for \$7500. Determine the following.

a) What is the monthly lease payment, including taxes?

\$325

b) What is the total of the lease payments over the 3-year period?

$$325 \times 36 = \$11,700$$

c) What is the total amount paid for the car after the purchase?

$$\begin{array}{r} \$11,700 \\ + 7,500 \\ \hline 19,200 \\ \hline \end{array}$$