

1) Monthly payment

(If not done previously, press [OPT] button to set Periods per Year as 12, since we are interested in monthly payment.)

You are buying a car that's worth \$25,000 cash value (tax and fees included). According to the dealer's financing department, interest rate is 6% for 36 month payment program. How much should the monthly payment be?

Key	Result
36[N]	N set
6[I/Y]	I/Y set
25000[PV]	PV set
0[FV]	FV set
[CPT][PMT]	PMT=-760.55

If the dealer is asking for more than \$760, either there's some more hidden fee or it's charging more than 6%. Note that you put PV as positive (new car as a gain), and got PMT as negative (your loss).

2) Interest rate

Since your credit score is superb, now the financing department says your monthly payment is \$725. At which rate are you financing?

Since we've set time value of money variables already from above calculation, we can put only changing value. Press [+/-] key to change the sign of 725 to -725 before press [PMT] button.

Key	Result
725[+/-][PMT]	PMT set (-725)
[CPT][I/Y]	I/Y=2.82

Answer is 2.82%

3) Future value

The dealer is saying you can also lease the same car at \$320. What would be the future value of the car at the end of periods?

(We are going to use 2.82% APR for this calculation)

Key	Result
320[+/-][PMT]	PMT set (-320)
[CPT][FV]	FV=-15194.89

Answer: The finance department of the dealer expects that the retained value be at least \$15,195 when you return the car after using it for 36 months.

4) Present Value

You can lease an LX model at \$320. Now an EX model with navigation system is \$350 to lease. After 3 years of use, it is known that LX and EX models has the same retained value. What is the present value of an EX model?

Key	Result
350[+/-][PMT]	PMT set (-350)
[CPT][PV]	PV=26034.48

Answer: The dealer's offer implies that if you can pay about \$26,000 (or less) to purchase an EX model of the car.

5) Payment periods

You decided to purchase the EX model. What will be the monthly payment if you pay off in 36 months?

Key	Result
0[FV]	FV set
[CPT][PMT]	PMT=-755.00

Ok. Your monthly payment will be \$755 for 36 months. But you would like to pay about \$500 per month. The finance department says it can offer 36, 48, 60, and 72 month financing at the same rate.

Key	Result
500[+/-][PMT]	PMT set (-500)
[CPT][N]	55.60

It means you'd have to pay more than \$500 if you pay off within 55 month. Since they don't offer 56 month financing program, the next best choice will be 60 months.

Key	Result
60[N]	N set
[CPT][PMT]	-465.67

So, as a final decision, would you buy the EX model, which is worth \$26,000 at \$465 over 60 months, no down payment?

Now that is a question a calculator will not help. You have to figure out on your own.