NOTES: Buy or Lease a Vehicle

Date: Jan. 11

Many businesses need a vehicle in order to operate. If you need a car, truck, or other vehicle for your business, you have a few different payment options:

Buying

- You can **buy** the vehicle by paying the full purchase price including tax.
- You can **pay a down payment** and **take out a loan** for the rest of the purchase price. You will then have to make monthly payments on the loan.

Leasing

* you do not own the vehicle!

You can **lease** the vehicle, making regular payments over a fixed term. You will have to sign an agreement that may include the following conditions:

- lease term - the length of time you will be using the vehicle
- lease rate - the amount of your monthly payments (taxes and interest charges are usually built into the monthly payments)
- security deposit - a payment made at the start of the lease term, which is refunded if the vehicle is returned in good condition at the end of the term
- Kilometre allowance - the maximum distance that can be driven over the term of the lease
- delivery charge - a payment made at the start of the lease term, to cover environmental fees and taxes
- option to purchase - you may be able to buy the vehicle at the end of the lease term, based on it's value when the lease is over (residual value)

When deciding between buying and leasing, you need to consider the costs of each option, how you plan to use the vehicle, and how long you plan to keep it.

Example $89499

Roger, who lives in Manitoba, plans of purchasing a three-quarter ton truck. The purchase price is $~~29 499.00~~. He must also pay 5% GST and 7% PST.

a) ~~f)~~ What is the total price of the truck?

$5\% + 7\% = 12\%$

12% of $89499

$= 0.12 \times 89499$

$= \$10739.88$

total price = 89499 ← truck cost
+ 10739.88 ← taxes

$\boxed{\$100238.88}$

b) ~~g)~~ Roger does not have enough money saved to pay the full purchase price. He can make a down payment of ~~$10 000.00~~ $20 000, then take out a bank loan for the rest. The bank offers him a loan at an interest rate of 4.50% per annum, compounded annually, for a 4-year term. What will Roger pay in total for the truck?

needs to borrow = ~~100.8~~ 100238.88 (total cost) − 20000 (down payment)

= $ 80 238.88

MONTHLY PAYMENTS

* use table (p.10)

4.5%, 4 years } $22.80 per month per $1000

$\$22.80 \times \dfrac{80238.88}{1000} = \$1829.45$ per month

total cost $= \underbrace{4 \times 12 \times 1829.45}_{\text{loan payment.}}$

= $87 813.60

+ $20 000 ← down payment

$= \boxed{\$107\,813.60}$

V.S

PAY LOAN AT THE END OF 4 YEARS

$A = P\left(1 + \frac{r}{n}\right)^{nt}$

$= 80238.88\left(1 + \frac{0.045}{1}\right)^{(1)(4)}$

= $95 686.36 ← loan payment

total cost = 95686.36
+20 000

$= \boxed{\$115686.36}$

Example

Francine needs a van for her catering company. She has found one that costs $\boxed{\$25\,675.00}$, including all fees and taxes. She has two options:

Option 1 – She can lease the van for 4 years, for $450.00/month with a security deposit of $2000.00 and a delivery charge of $529.96.

Option 2 – She can use the $2529.96 as a down payment and take out a loan at an interest rate of 3.15% per annum, compounded monthly for a period of 4 years.

a) ~~d)~~ Calculate the total cost of leasing the van for 4 years if Francine damages the van and doesn't get her security deposit back.

$4 \times 12 \times \$450 = \$21\,600$

$\underbrace{\$21600}_{\text{monthly payments}} + \underbrace{\$2000}_{\text{security deposit}} + \underbrace{\$529.96}_{\text{delivery charge}} = \underbrace{\boxed{\$24\,129.96}}_{\text{total cost to lease}}$

c) ~~e)~~ Calculate the total cost of purchasing the van, including the interest on the loan.

$4 \times 12 \times \$513.82 = \$24663.36$

$+ \quad 2529.96$

$\boxed{\$27\,193.32}$

total cost to buy.

b) ~~f)~~ What would be the approximate monthly payments on the loan?

needs to borrow: $\$25675 - \$2529.96 = \$23\,145.04$.

use table to find the monthly payment 3.15% 4 years

estimate between 3% and 3.25%

$\$22.20 \times \dfrac{23{,}145.04}{1000} = \boxed{\$513.82}$ per month

d) Which option would you recommend Francine choose? Explain your reasoning.

	Advantage	Disadvantage
OPTION 1 Lease $450.00/month $24 129.96 total	• lower monthly payment • total cost is a bit less *	• she does not own the van at the end.
OPTION 2 Buy $513.82/month $27 193.32 total	• she owns the van (can continue to use it or sell it at the end)	• higher monthly payments

* Choice will depend on what she can afford.

If she can afford the monthy payments, I think buying is a better option because she owns the vehicle at the end.