Foundations 12

Chapter 2 - class notes

2.1 Loans: Calculating term

(A) Using a spreadsheet:

	A	B	C	D	E
1	Month	Payment	Interest	Principal Paid	Balance
2	0	X	X	X	1200.00
3	1	350	=E2*(0.05/12)	=B3-C3	=E2-D3
4	2	350	=E3*(0.05/12)	=B4-C4	=E3-D4
5	3	↓	=E4*(0.05/12)	=B5-C5	=E4-D5
	↓		↓	↓	↓

* Tip: highlight columns by clicking on the letter (A-E) & make it [$] and 2 decimals ← [0.00] (buttons on the top)

(B) Present Value or Future Value

ex. [TVM] ⇒ PV = 1200, FV = 0, PMT = 350, I% = r = 5%, P/Y = 12 (payments/year), C/Y = 12 (comp periods/yr)

compound or amortization

* press cmpd [f6] then n [f1]

2.2 Credit Cards: $1000 = P, t = 6 mos (0.5 yr), compound daily ⇒ n = 365

- compare credit card cost vs loan

r = 19.9% $A = 1000\left(1+\frac{0.199}{365}\right)^{365\times 0.5}$ ≐ 1104.59

r = 6% $A = 1000\left(1+\frac{0.06}{365}\right)^{365\times 0.5}$ = 1030.45

74.14 diff.

To use TVM

Menu - TVM ; F2: Compound Interest

n = # of compound periods (t x comp. periods per year)

I% = interest rate in %

PV = Present value (amount of loan (-) amount of savings (+))

PMT = Payment (+ if adding (paying off), - if withdraw)

FV = future value (amount will be in future)

* FV + PV have to be opposite signs!

P/Y = periods per year

C/Y = compound periods per year
- daily = 365
- monthly = 12
- semi = 2
- annual = 1

- put in what you know + press exe
- choose what you dont know on bottom of the screen

ex balance on credit card $-2000 (PV)
payments $100 (PMT)
I = 19% compounded daily (C/Y=365)

* How long to pay it off ⇒ FV = 0
n = 24.28 or 2 years + 4 months

2.3 - use CH1 & CH2 notes

2.4 Buy, Rent or Lease

lease: monthly payment; use for a certain term (3 years); may pay for damages.
→ at the end you do not own it

rent: pay per day of use

buy: - pay outright or finance monthly.
- terms can be 2-5 years.
- will pay interest but will own vehicle in the end (an asset)

Depreciation: ex 40% per year

Spread sheet: $ INFO given 50,000, after 1 year

	A	B	C	D
1	Year	Start Value	Depreciation	END VALUE
2	1			50,000
3	2	=D2	=B3*.40	=D2-C3
4	3	=D3	=B4*.40	=D3-D4
5	4	=D4	=B5*.40	=D4-D5
	↓			