7.5 Solving Financial Problems using TVM

There are variety of technological tools for calculating compound interest:
- spreadsheets
-calculators
-web sites of financial instructions
-graphing calculators

Using TVM

1. APPS
2. Finance
3. Enter
4. TVM Solver
5. Enter

Financial Screen:
N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN

Need to **UNDERSTAND** and **REMEMBER** the following meanings

N- total number of payment periods (# of years x # of periods per year)
I%- **annual** interest rate as a percent, not as a decimal
PV- present value
PMT- regular payment amount
FV- future value
P/Y- number of payment periods per year
C/Y- number of compound periods per year
PMT: END BEGIN be sure END is highlighted

Will always match while doing compound interest as your interest gets paid at the end of each compounding period

Money that is paid (money outflow)- should be entered as a **negative** value
Money that is received (money inflow)- should be entered as a **positive** value

To solve for a variable: Move the cursor to that variable
Press ALPHA ENTER

Ex 1:

Shaun needs to pay for his university loan of $5000. The interest rate of the loan is 2.5%/a compounded monthly and must be paid as a lump sum at the end of the 2 year term. How much will Shaun have to pay back?

Financial Screen:

N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN

N- total number of payment periods (# of years x # of periods per year)
I%- **annual** interest rate as a percent, not as a decimal
PV- present value
PMT- regular payment amount
FV- future value
P/Y- number of payment periods per year
C/Y- number of compound periods per year
Will always match for compound interest
PMT: END BEGIN be sure END is highlighted

Pay Attention:
When no payments are involved in solving compound interest problems:
PMT=0

Ex 2:

How much did Heather invested at 4%/a compounded semi-annually for 3 years if the final amount was $7500

Financial Screen:

N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN

Ex 3:
What annual interest rate was Mike charged if an $800 credit card bill grew to $920.99 in 6 months and the interest was compounded monthly.

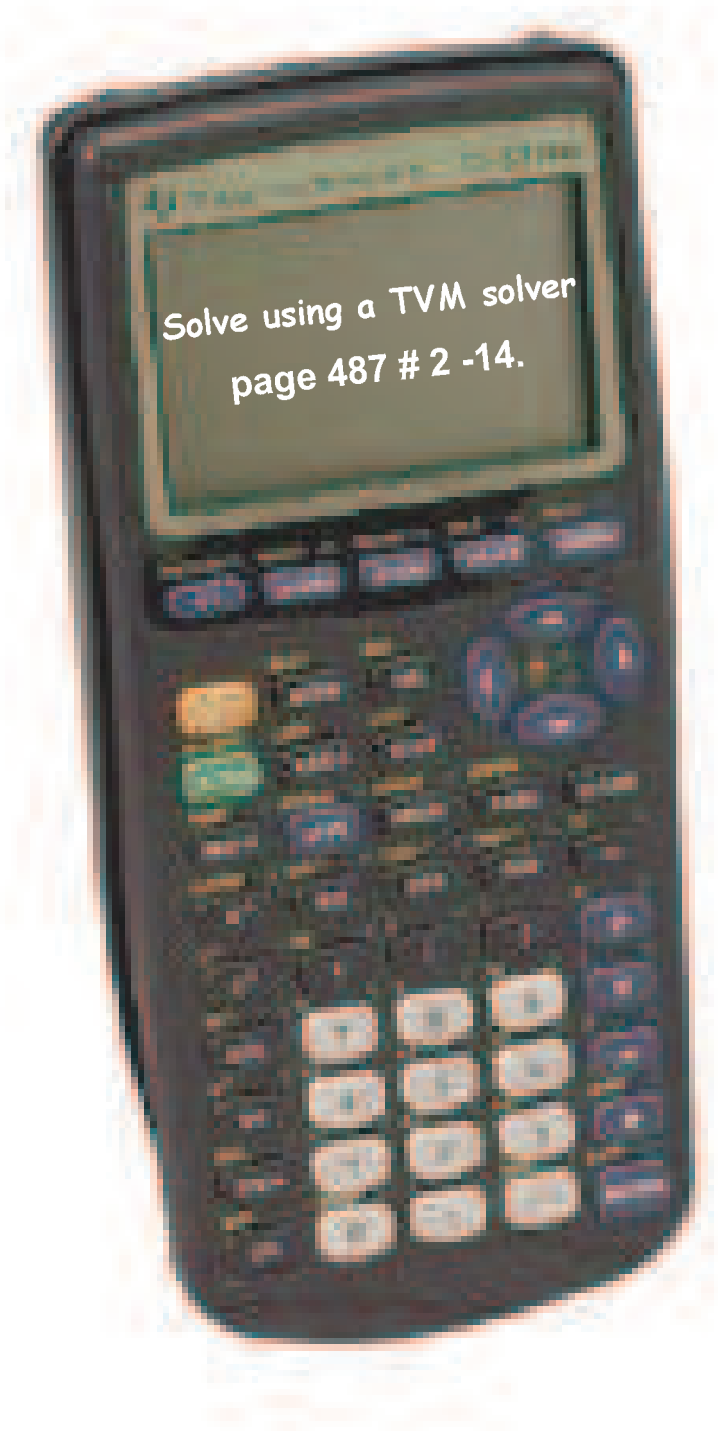
Financial Screen:
N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN

Check the answer with a formula.

Ex 4:
Approximately how long would it take for a $15000 investment to double if it earns 10%/a interest compounded semi-annually?

Financial Screen:
N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN

Check the answer with a formula.


Solve using a TVM solver
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