Are there any Homework Questions you would like to see on the board?

pp. 476-477 # 1, 2, 8, 10

Today's Learning Goal(s):

By the end of the class, I will be able to:

a) Use the TVM Solver to solve problems involving future value, present value, number of payments, and interest rate.

MCF 3MI

8.4 Compound Interest: Solving Financial Problems (Using the TVM Solver)

$A = P(1+i)^n$ or $\frac{A}{(1+i)^n} = P$

Date: June 4/18

Ex. 1: Kelly invests \$725 at 5.2%/*a* interest compounded quarterly.
What is the total amount in Kelly's account at the end of 6 years?

\$988.47

$A = ?$
$P = 725$
$i = \frac{0.052}{4}$
$n = 6 \times 4 = 24$

$A = P(1+i)^n$
$= 725\left(1 + \frac{0.052}{4}\right)^{24}$
$\doteq 988.472$
$\doteq \$988.47$

Kelly will have \$988.47 in the account at the end of 6 years.

Ex. 2: How much did Barry initially invest in his savings bond, if after 5 years, he got \$5000 back with 6.5%/*a* interest compounded semiannually?

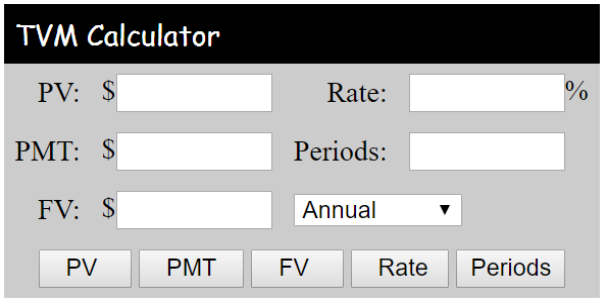
\$3631.36

$A = 5000$
$P = ?$
$i = \frac{0.065}{2}$
$n = 5 \times 2 = 10$

$A = P(1+i)^n$
$5000 = P\left(1 + \frac{0.065}{2}\right)^{10}$
$\frac{5000}{\left(1 + \frac{0.065}{2}\right)^{10}} = P$
$P \doteq 3631.360$
$\doteq \$3631.36$

Barry invested \$3631.36 5 years ago.

Now, using your Chromebook and the weblink in our Google classroom, we can check our work using a TVM Calculator.



For the software to work properly, PV (present value) must be negative.
"Periods" is "*n*", the number of compounding periods.

Use TVM calculator to fill out the following table:

$I = A - P$

Prinicpal ($)	*Annual Interest Rate (%)*	*Years Invested*	*Compounding Period*	*Final Amount ($)*	*Interest Earned ($)* $I = FV - PV$
1300	2.45	6	monthly	$1505.63	$205.63
227.22	$5\frac{1}{4}$	4	quarterly	279.93	52.71
12 000	3.24	7	weekly	15 053.88	3053.88
* 450	3.5	20	semi-annually	900.72	450.72
3800	4.6	14	daily	7234	3434.00
7838.40	$2\frac{3}{4}$	2	annually	8275.44	437.04

$A = P(1+i)^n$

$A = 900.72$

$P = 450$

$i = \frac{0.035}{2}$

$n = x \cdot 2$

$= 2x$

$900.72 = 450\left(1 + \frac{0.035}{2}\right)^{2x}$

* we can't solve when the variable is in the exponent, using the math taught in this course.

∴ Use TVM.

Revisit Today's Learning Goals

Today's Homework:

pp. 486-488 #1 – 3, 6, 7, 10, 14
READ pp. 489-490
(Mid-Chapter Review) pp. 491-492 # 1, 2, 4 – 14

Continue completing your UNIT ASSIGNMENT!!