Ready for the test??? REVIEW Time...

Chapter 8: Investing Money
- mid chapter review p. 481
- chp review p. 507
- chp self test p. 506

Chapter 9: Borrowing Money
- mid chapter review p. 539
- chp review p. 573
- chp self test p. 572

Cumulative Review...Chp. 8/9 p.

Simple Interest

$$I = \Pr t$$
$$A = P + I$$
$$A = P + \Pr t$$
$$A = P(1 + rt)$$

Compound Interest

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

Present Value

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

Rule of 72 and Rate of Return

$$Doubling\ Time = \frac{72}{Rate}$$
$$ROR = \frac{\$earn}{\$invested} \times 100\%$$

TVM-Solver

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

p. 576

6. Connie wants a down payment of $1500 to buy new furniture for her apartment 2 years from now. Her bank offers a savings account that earns 6.0% interest, compounded monthly. What amount does she need to invest now?

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

$$= \frac{1500}{\left(1+\frac{0.06}{12}\right)^{12\times 2}}$$

$\$1330.78$

$$=$$

```
1500/(1+0.06/12)
^24
     1330.778503
```

P. 572 #1

1. A year ago, Ryan borrowed $5000 to pay for a new roof on his garage. He borrowed at 7.25%, compounded quarterly, for 2 years. He will repay the loan in a single payment at the end of the term.
   a) What amount will be due at the maturity date? How much of this amount is interest?
   b) Suppose that the term and the interest rate were the same, but the interest was compounded annually. What amount would be due at the maturity date? How much of this amount is interest?
   c) Suppose that the term, interest rate, and compounding were the same, but Ryan decided to make regular monthly payments over the 2 years instead. How much would he end up paying altogether? How much of this would be interest?

P. 576 #4

a) $A = 5000\left(1+\frac{0.0725}{4}\right)^{4\times 2}$

5000(1+0.0725/4)^8
5722.69773

$5772.70

b)

5000(1+0.0725/1)^2
5751.28125

$5751.28

c)

N=24
I%=7.25
PV=5000
PMT=-224.33156…
FV=0
P/Y=12
C/Y=4
PMT:END BEGIN

24*224.33
5383.92
Ans-5000
383.92

Paying Interest

p. 506

4. Both Alex and Jamie have an investment portfolio.
   a) What is the current value of each portfolio?
   b) Who has the greater rate of return? Explain.

Alex's portfolio:
- A 10-year $5000 GIC, purchased 9 years ago, that earns 2.6%, compounded annually
- A 5-year $2000 CSB, purchased 4 years ago, that earns 3.1%, compounded semi-annually
- A savings account at 1.4%, compounded weekly, into which he has been making weekly deposits of $15 for 5 years

Jamie's portfolio:
- A 10-year $3000 bond, purchased 9 years ago, that earns simple interest at 2.7%
- A 3-year $700 CSB, purchased 3 years ago, that earns 2.8%, compounded semi-annually
- A high-interest savings account, at 1.7% compounded monthly, into which she has been making monthly deposits of $100 for 6 years

```
5000(1+0.026)^9
      6299.357431
```

```
2000(1+0.031/2)^
8
      2261.879256
```

```
N=260
I%=1.4
PV=0
PMT=-15
FV=4039.178564
P/Y=52
C/Y=52
PMT:END BEGIN
```

a)

```
6299.36+2261.88+
4039.18
                12600.42
```

```
5000+2000+15*52*
5
              10900
12600.42-10900
              1700.42
Ans/10900*100
      15.60018349
```

```
3000+3000(0.027)
(9)
              3729
```

```
700(1+00.028/2)^
6
      760.8968216
```

```
N=72
I%=1.7
PV=0
PMT=-100
FV=7574.367645
P/Y=12
C/Y=12
PMT:END BEGIN
```

```
3729+760.9+7574.
37
          12064.27
```

```
3000+700+100*12*
6
              10900
12064.27-10900
              1164.27
Ans/10900*100
      10.68137615
```

$$\text{RUR} = \frac{\#\text{earn} \leftarrow I}{\#\text{invest} \leftarrow P}$$

UNIT TEST

Investing/Borrowing $

Complete Open Response FIRST

Then complete Multiple Choice

Simple Interest

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$$A = P + \Pr t$$

$$A = P(1 + rt)$$

Rule of 72 and Rate of Return

$$Doubling\ Time = \frac{72}{Rate}$$

$$ROR = \frac{\$earn}{\$invested} \times 100\%$$

TVM-Solver

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

Present Value

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

Compound Interest

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

$$I = A - P$$