HOMEWORK...

p. 568: #4, 5, 6, 10, 11

5. Susie purchased a limited edition print of a Robert Bateman painting for $7800. Bateman's prints appreciate, on average, 1.5% annually.

a) How long will Susie need to keep the print until its value exceeds $10 000?

b) About how long will Susie need to keep the print until its value has doubled?

a)

```
9188.001712
9325.821737
9465.709063
9607.694699
 9751.81012
9898.087277
10046.55856
```

17th year

OR $7800(1.015^{17})$

b) 47th year

```
Ans*1.015
      16917.21231
      17170.97049
7800(1.015)^47
      15703.577
7800(1.015)^46
      15471.50444
```

6. Jake and Archie are looking for places to live.

- Jake decides to rent a house for $1400 per month.
- Archie buys a house for $189 900, with a down payment of 10%. The bank has offered Archie a 20-year mortgage for the remainder of the cost, at 4% compounded semi-annually, with payments every two weeks.

Jake and Archie both move after 5 years. Archie's house has depreciated by 2% per year. Compare Jake's and Archie's housing costs.

Rental Jake

```
1400*12*5
                84000
```

No Asset

DP → 10% of 189900

0.10 x 189900

18990

```
N=520
I%=4
PV=170910
PMT=-476.215394
FV=0
P/Y=26
C/Y=2
PMT:END BEGIN
```

Payment

Value after 5 years

```
189900*0.98
              186102
Ans*.98
           182379.96
        178732.3608
        175157.7136
        171654.5593
```

SELL

```
N=130
I%=4
PV=170910
PMT=-476.215394
FV=-139927.2992
P/Y=26
C/Y=2
PMT:END BEGIN
```

OWE BANK

171 654.56

BANK → 139927.30

ME → #31 727.26

Payments + DP

```
476.22*130+18990
              80898.6
```

- 31727.26

TOTAL Archie Lost

PAID 49171.34

No Asset

10. A company has spent $70 000 for car rentals over 2 years. The company's financial officer wants to determine if the company should continue to rent or if it should buy or lease two vehicles instead.

- A new car costs $32 000. A 5% down payment is required. The rest can be financed at 3.6%, compounded monthly, for 2 years. Assume depreciation of 40% a year and monthly payments.
- A 2-year lease for a car requires a down payment of $2000 and monthly payments of $770.

a) Determine the costs of each option: renting, buying, and leasing.

b) Recommend a course of action for the company. Justify your recommendation.

Lease

```
770*12*2+2000
              20480
Ans*2
              40960
```

Choose No Asset

Buy

```
N=24
I%=3.6
PV=30400
PMT=-1314.7120...
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN
```

Subtract from Cost

DP

```
0.05*32000
              1600
1314.71*24*2
             63106.08
```

Cost + 1600 (2) 66 306.08

```
32000*0.6
             19200
Ans*.6
             11520
Ans*2
             23040
```

Value after 2yr SELL 2 of them

Pay No Asset

```
63106.08+3200
          66306.08
Ans-23040
          43266.08
```

Ready for the test tomorrow? 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. 576

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