HOMEWORK...

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

4. Kami needs a new septic bed for her home's sewage system. Since she is in the business of landscaping, she can do the job herself. Kami estimates that the job will take at least 3.5 days to complete, but she will need a backhoe. She could pay $6000 to rent a backhoe for a week, or she could pay $700 per half day. Which should she do? Explain.

Week → $6000 BEST

½ Days → 3.5 × 2 × 700

$4900

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.

Rent (No Asset)

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

Buy (Asset)

DP -> 10% of 189 900

0.10 x 189 900

18 990

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

Pay Out...

SELL

```
189900*0.98^5
      171654.5593
```

BANK Archie

```
476.22*520
             247634.4
Ans+18990
             266624.4
```

Cost over 20 years

```
N=130
I%=4
PV=170910
PMT=-476.215394
FV=139927.2952
P/Y=26
C/Y=2
PMT:END BEGIN
```

owe

```
171654.56-139927
.30
          31727.26
```

```
476.21*130+18990
             80897.3
Ans-31727.26
             49170.04
```

Cost over 5 years

PAID (No Asset)

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??? 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