

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 \rightarrow \$6000 BEST

$\frac{1}{2}$ Days \rightarrow $3.5 \times 2 \times 700$
\$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.

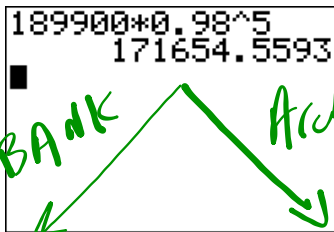
Rent (No Asset)

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

Buy (Asset)

DP → 10% of 189 900
 0.10×189900
 18990

SELL



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

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

Pay Out...

```
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
```

```
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

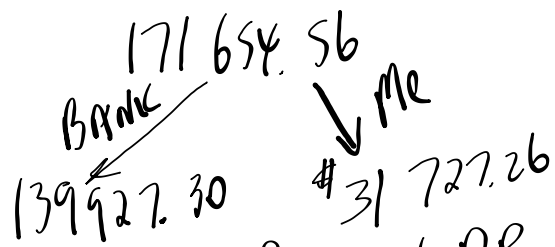
Value after 5 years

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=-139927.2952
P/Y=26
C/Y=2
PMT: END BEGIN

OWE BANK



476.22*130+18990
80898.6

TOTAL
Archie cost

80898.6
- 31727.26
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.
- Determine the costs of each option: renting, buying, and leasing.
 - Recommend a course of action for the company. Justify your recommendation.

Lease

770*12*2+2000	20480
Ans*2	<u>40960</u>

Choose

Buy

N=24	
I%=3.6	
PV=30400	
PMT=1314.7120...	
FV=0	
P/Y=12	
C/Y=12	
PMT: <input type="checkbox"/> END <input checked="" type="checkbox"/> BEGIN	

Subtract from cost

0.05*32000	1600
1314.71*24*2	<u>63106.08</u>

DP

Cost

+ 1600 (2)

66 306.08

32000*0.6	19200
Ans*.6	11520
Ans*2	<u>23040</u>

Value after 2yrs

SELL 2 of them

63106.08+3200	66306.08
Ans-23040	<u>43266.08</u>

Pay

No Asset

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

$$I = Prt$$

$$A = P + I$$

$$A = P + Prt$$

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

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

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

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

TVM-Solver

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