

## Grab a calculator & finish...

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)  $7800 \times 1.015^{17}$

*17 years*

9188.001712
9325.821737
9465.709063
9607.694699
9751.81012
9898.087272
10046.55858

b)  $\frac{7800}{1.5} = 48 \text{ years}$

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.

Down  $\Rightarrow$  5% of 32000  
 $0.05 \times 32000$   
 \$1600

Rent  
 \$70 000

Lease  
 $2000 + 770 \times 12 \times 2$   
 20480  
**BEST**

Buy (Asset)  
 PMT

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

$24 \times 1314.71 + 1600$   
 33153.04

$32000 \times 0.6$  19200  
 Ans  $\times 0.6$  11520  
 SELL

Paid  
 Value at 2 yrs

$33153.04 - 11520$   
 21633.04  
 Cost

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.

Down  $\Rightarrow$  \$18,990

Jake (Rent)

```
1400*12*5      84000
█
```

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

5 years

```
189900*0.98^5
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

```
171654.56-139927
.30      31727.26
Ans-18990      12737.26
█
```

Pocket

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

*Quiz*

*\* Test*

## 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

*Best*

## 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