

HOMEWORK QUESTIONS...

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?

0.015

a) $7800 \times 1.015 = 7917 \leftarrow 1^{st} \text{ year}$

```

9188.001712
9325.821737
9465.709063
9607.694699
9751.81012
9898.087272
10046.55858

```

← 17th

OK

b) $7800 \times 2 = 15600$

```

7800*1.015^17
10046.55858

```

```

12192.02572
7800*1.015^40
14149.34359
7800*1.015^50
16420.89088
7800*1.015^47
15703.577

```

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.

RENT

Down Payment
 5% of 32000
 0.05×32000
 1600

a) Lease

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

Buy * asset

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

```
1314.71 * 24
Ans * 2
Cost 63106.08
```

b)

Buy : Sell -> No Asset

```
32000 * 0.6
Ans * 0.6
Ans * 2
23040
```

```
63106.08 - 23040
Cost -> 40066.08
```

```
63106.08 - 23040
40066.08
```

EXAMPLE 3 p. 562 Solving a problem that involves leasing or buying a water heater

The 10-year-old hot water heater in Tom's home stopped working, so he needs a new one. Tom works for minimum wage. After paying his monthly expenses, he has \$35 **disposable income** left. He has an unused credit card that charges 18.7%, compounded daily. He has two options:



disposable income
The amount of income that someone has available to spend after all regular expenses and taxes have been deducted.

- Tom could lease from his utility company for \$17.25 per month. This would include parts and service.
 - He could buy a water heater for \$712.99, plus an installation fee of \$250, using his credit card. He could afford to pay no more than \$35 each month.
- What costs are associated with buying and leasing?
 - What do you recommend for Tom? Justify your recommendation.
 - Suppose that the life expectancy of a water heater is 8 years. Would this change your recommendation? Explain.

a) Lease for 3 years Buy (3 years)

17.25*36 621

b) Lease for 3 years

N=36.30739057
I% = 18.7
PV = 962.99 cash
PMT = 35
FV = 0
P/Y = 12
C/Y = 365
PMT: END BEGIN

Buy credit
35*36.31 1270.85

c) Lease for 8 years

17.25*12*8 1656

In Summary**Key Ideas**

- When deciding whether to rent, buy (with or without financing), or lease, each situation is unique. A cost and benefit analysis should take everything into account.
 - Costs include initial costs and fees, short-term costs, long-term costs, disposable income, the cost of financing, depreciation and appreciation, penalties for breaking contracts, and equity.
 - Benefits include convenience, commitments, flexibility, and personal needs or wants, such as how often you want to buy a new car.
- Since each situation is unique, it is impossible to generalize about whether renting, leasing, or buying is best.

Need to Know

- When renting, leasing, and buying, you often need to make payments up front. Some payments go toward the overall cost, such as a down payment on a house or a lease deposit and the first and last month's rent. Other deposits, such as a rental damage deposit, are refunded at a later date.
- Appreciation and depreciation affect the value of a piece of property and should be considered when making decisions about renting, buying, or leasing, based on the particular situation. They are usually expressed as a rate per annum.
- Equity can make buying a house a form of investment.

HOMEWORK...

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