

HOMEWORK QUESTIONS...

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→ 0.015

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? → $x 2 = 15600$

a) $7800 \times 1.015 =$

9188.001712
9325.821737
9465.709063
9607.694699
9751.81012
9898.087272
10046.55858

17 years

b) 35 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.
- a) Determine the costs of each option: renting, buying, and leasing.
 b) Recommend a course of action for the company. Justify your recommendation.

Rent 2 Vehicles

\$70 000

Lease 2 Vehicles

$$\text{Cost} = 2(2000 + 770 \times 24)$$

$$= \$40 960 \text{ + tax}$$

Buy 2 Vehicles

$$\text{Cost} = 2(1314.71 \times 24)$$

$$= \$63 106.08$$

Down Payment \rightarrow 5% of 32 000
 $0.05 \times 32 000$
 1600

Payment

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

Sell

32000*0.6	19200	1st 2nd
Ans*0.6	11520	
Ans*2	23040	

TOTAL SALE

Buy & Sell

```
63106.08-23040
40066.08
```

no asset

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.

Lease for 3 yrs

Buy

a) 17.25×36 621
b) Best

Buy is cheaper

```

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

36.31 months to pay for this purchase

c) *Lease for 8 years possibly*
 $17.25 \times 12 \times 8$ 1656

36.31×35 1270.85
Pay

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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