

Senior Math

Blizzard Bag

I, II, &

III

Chapter 7

MORTGAGE LOANS

The largest single expense most people ever have is the purchase of a house. Today, in some parts of the country, about the only house a person can buy for less than \$100,000 would be just right for a large dog! This means people who want to own their own home have to figure out where they can get tens or hundreds of thousands of dollars with which to buy the house. Obviously, few people have this much money of their own, so they have to go to a bank to borrow it. A bank loan that is used to pay for the purchase of a house is called a *mortgage*. Exercise I on page 92 shows how to calculate the amount of a mortgage loan.

The Van Dusens have been looking at a new house not far from where they now live. They are not certain they want to buy the house, but they would like to have some idea about how much it would cost. The bank with which the Van Dusens do business has two kinds of loans, one a *fixed rate mortgage* (FRM) and one an *adjustable rate mortgage* (ARM). With a fixed rate mortgage, the interest rate stays the same throughout the entire lifetime of the mortgage. With an ARM, the rate changes from time to time, usually every month, every six months, or every year.

The bank now has a FRM available at $11\frac{1}{2}\%$. The Van Dusens have heard that six months from now, that rate might drop to $11\frac{1}{4}\%$. The Van Dusens would like to know if they would save very much by waiting for the interest rate to drop. You can help the Van Dusens make this decision by completing Exercise II on page 93. The form shown there is called an *amortization schedule*. An amortization schedule shows how a monthly mortgage payment is divided between interest and principal on the loan for each month of the loan's lifetime. It also shows how the balance owed on the loan is reduced from month to month. Fill in the blanks on amortization schedules A and B (page 94), one for $11\frac{1}{2}\%$ and one for $11\frac{1}{4}\%$, to see how much difference there is between the two and to see how the monthly payments are divided between principal and interest each month.

Schedule C on page 95 is an amortization schedule for the bank's ARM. The rate for the first six months is $7\frac{3}{4}\%$. Then, in the seventh month, the rate changes to $10\frac{1}{4}\%$.

Questions and Activities

1. What is a mortgage loan? How does it differ from other kinds of loans?
2. What do the following terms mean with regard to a mortgage?

(a) principal	(c) amortization schedule
(b) interest	(d) equity; points; escrow
3. When you make a payment on your mortgage, does most of the money go for interest or for principal?
4. What are "closing costs"? What expenses are likely to be included in the closing costs on a house?
5. Do you think it would be better to take a 30-year mortgage at 10½% or a 15-year mortgage at 10¾%? Explain your answer.
6. What are some of the advantages and disadvantages of fixed rate and adjustable rate mortgages?

I. Calculation of Mortgage Amount

A. Total cost of house		\$136,700.00
B. Down payment (20% of total cost of house)	\$	
C. Amount to be financed by mortgage (A-B)	\$	
D. Closing costs		
1. Points (3% of mortgage amount)	\$	
2. Credit report	\$30.00	
3. Application fee	\$50.00	
4. Escrow fees	\$412.00	
5. Notary fee	\$25.00	
6. Title insurance	\$915.00	
E. Total closing costs	\$	
F. Total loan amount (C + E)	\$	

II. Amortization Schedules: Fixed and Adjustable Rate Mortgages

The following schedules let you compare the payments on a mortgage loan for one year at different rates of interest. Fill in the blanks in each schedule. Then you can compare the three different mortgage arrangements. To figure the amounts for each month, follow these steps:

1. Amount toward interest = Previous balance × Interest rate ÷ 12 months
2. Amount toward principal = Total payment – Amount toward interest
3. New principal balance = Previous balance – Amount toward principal

Schedule A: 11½% Fixed Interest

Payment Number	Total Payment	Toward Interest	Toward Principal	Principal Balance
				\$ 114,072.80
1	\$1124.00	\$ 1093.20	\$ 30.80	\$ <u>114,042.00</u>
2	\$1124.00	\$ _____	\$ _____	\$ _____
3	\$1124.00	\$ _____	\$ _____	\$ _____
4	\$1124.00	\$ _____	\$ _____	\$ _____
5	\$1124.00	\$ _____	\$ _____	\$ _____
6	\$1124.00	\$ _____	\$ _____	\$ _____
7	\$1124.00	\$ _____	\$ _____	\$ _____
8	\$1124.00	\$ _____	\$ _____	\$ _____
9	\$1124.00	\$ _____	\$ _____	\$ _____
10	\$1124.00	\$ _____	\$ _____	\$ _____
11	\$1124.00	\$ _____	\$ _____	\$ _____
12	\$1124.00	\$ _____	\$ _____	\$ _____
Totals		\$ _____	\$ _____	\$ _____

Schedule B: 11¼% Fixed Interest

Payment Number	Total Payment	Toward Interest	Toward Principal	Principal Balance
				\$ 114,072.80
1	\$1124.00	\$ 1069.43	\$ 54.57	\$ 114,018.23
2	\$1124.00	\$ _____	\$ _____	\$ _____
3	\$1124.00	\$ _____	\$ _____	\$ _____
4	\$1124.00	\$ _____	\$ _____	\$ _____
5	\$1124.00	\$ _____	\$ _____	\$ _____
6	\$1124.00	\$ _____	\$ _____	\$ _____
7	\$1124.00	\$ _____	\$ _____	\$ _____
8	\$1124.00	\$ _____	\$ _____	\$ _____
9	\$1124.00	\$ _____	\$ _____	\$ _____
10	\$1124.00	\$ _____	\$ _____	\$ _____
11	\$1124.00	\$ _____	\$ _____	\$ _____
12	\$1124.00	\$ _____	\$ _____	\$ _____
Totals		\$ _____	\$ _____	

Schedule C: Adjustable Rate Mortgage

Payment Number	Total Payment	Toward Interest	Toward Principal	Principal Balance
				\$ 114,072.80
1 @ 7.75%	\$741.50	\$ 736.72	\$ 4.78	\$ 114,068.02
2	\$741.50	\$ _____	\$ _____	\$ _____
3	\$741.50	\$ _____	\$ _____	\$ _____
4	\$741.50	\$ _____	\$ _____	\$ _____
5	\$741.50	\$ _____	\$ _____	\$ _____
6	\$741.50	\$ _____	\$ _____	\$ _____
7 @ 10.25%	\$982.28	\$ _____	\$ _____	\$ _____
8	\$982.28	\$ _____	\$ _____	\$ _____
9	\$982.28	\$ _____	\$ _____	\$ _____
10	\$982.28	\$ _____	\$ _____	\$ _____
11	\$982.28	\$ _____	\$ _____	\$ _____
12	\$982.28	\$ _____	\$ _____	\$ _____
Totals		\$ _____	\$ _____	