

\* Go through

EXHIBIT 5.11

A Table of Monthly Mortgage Payments (Monthly Payments Necessary to Repay a \$10,000 Loan)

The monthly loan payments on a mortgage vary not only by the amount of the loan, but also by the rate of interest and loan maturity.

Rate of Interest	Loan Maturity				
	10 Years	15 Years	20 Years	25 Years	30 Years
5.0%	\$106.07	\$ 79.08	\$ 66.00	\$ 58.46	\$ 53.68
5.5	108.53	81.71	68.79	61.41	56.79
6.0	111.02	84.39	71.64	64.43	59.96
6.5	113.55	87.11	74.56	67.52	63.21
7.0	116.11	89.88	77.53	70.68	66.53
7.5	118.71	92.71	80.56	73.90	69.93
8.0	121.33	95.57	83.65	77.19	73.38
8.5	123.99	98.48	86.79	80.53	76.90
9.0	126.68	101.43	89.98	83.92	80.47
9.5	129.40	104.43	93.22	87.37	84.09
10.0	132.16	107.47	96.51	90.88	87.76
10.5	134.94	110.54	99.84	94.42	91.48
11.0	137.76	113.66	103.22	98.02	95.24

Note: To use: (1) Divide amount of the loan by \$10,000, (2) find the loan payment amount in the table for the specific interest rate and maturity, and (3) multiply the amount from Step 1 by the amount from Step 2.

Example: The monthly payment for a \$98,000, 7.5 percent, 30-year loan would be (1) \$98,000/\$10,000 = 9.8; (2) the payment associated with a 7.5 percent, 30-year loan, from the table, is \$69.93; (3) the monthly payment required to repay a \$98,000, 7.5 percent, 30-year loan is 9.8 × \$69.93 = \$685.31.

Go over



\* 25 to 30% housing of monthly gross income

33-38% all monthly installment loan payments and monthly payments on auto, furniture, and other consumer installment loans) to monthly borrower gross income. Customary ratios for a conventional mortgage stipulate that monthly mortgage payments cannot exceed 25 to 30 percent of the borrower's monthly gross (before-tax) income, and the borrower's total monthly installment loan payments (including the mortgage payment) cannot exceed 33 to 38 percent of monthly gross income. Because both conditions stipulate a range, the lender has some leeway in choosing the most appropriate ratio for a particular loan applicant.

Payment =  $\frac{\text{Price}}{10,000} \times \text{Table Value}$

So, for worksheet 5.3,

Price =  $\frac{\text{Pmt} \times 10,000}{\text{Table Value}}$

Let's look at how these affordability ratios work. Assume that your monthly gross income is \$4,500. Applying the lower end of the ranges (that is, 25 percent and 33 percent), we see that this income level supports mortgage payments of \$1,125 a month (\$4,500 × .25 = \$1,125) so long as total monthly installment loan payments do not exceed \$1,500 (\$4,500 × .33 = \$1,500). If your non-mortgage monthly installment loan payments exceeded \$375 (the difference between \$1,500 and \$1,125), your mortgage payment would have to be reduced accordingly, or the other installment loan payments reduced or paid off. For instance, if you had \$500 in other installment payments, your maximum monthly mortgage payment would be \$1,500 - \$500 = \$1,000.

worksheet **5.1**

*details of her situation on bot. of page 185*

Comparing Mary Dixon's Automobile Lease versus Purchase Costs

This worksheet illustrates Mary Dixon's lease versus purchase analysis for a new car costing \$15,000. The 3-year closed-end lease requires an initial payment of \$1,800 (\$1,500 down payment + \$300 security deposit) and monthly payments of \$300. Purchasing requires a \$2,500 down payment, sales tax of 5 percent (\$750), and 36 monthly payments of \$392. *Because the total cost of leasing of \$12,516 is greater than the \$9,662 total cost of purchasing, Mary should purchase rather than lease the car.*



AUTOMOBILE LEASE VERSUS PURCHASE ANALYSIS*	
Name <u>Mary Dixon</u>	Date <u>March 4, 2005</u>
Item Description	Amount
<b>LEASE</b>	
1 Initial payment:	
a. Down payment (capital cost reduction):	<u>\$ 1,500</u>
b. Security deposit: <i>hope to get back</i>	<u>300</u>
2 Term of lease and loan (years)*	<u>3</u>
3 Term of lease and loan (months) (Item 2 × 12)	<u>36</u>
4 Monthly lease payment	<u>\$ 300</u>
5 Total payments over term of lease (Item 3 × Item 4)	<u>\$ 10,800</u>
6 Interest rate earned on savings (in decimal form)	<u>.04</u>
7 Opportunity cost of initial payment (Item 1 × Item 2 × Item 6)	<u>\$ 216</u>
8 Payment/refund for market value adjustment at end of lease (\$0 for closed-end leases) and/or estimated end-of-term charges	<u>\$ 0</u>
9 <b>Total cost of leasing (Item 1a + Item 5 + Item 7 + Item 8)</b>	<u>\$ 12,516</u>
<b>PURCHASE</b>	
10 Purchase price	<u>\$ 15,000</u>
11 Down payment	<u>\$ 2,500</u>
12 Sales tax rate (in decimal form)	<u>.05</u>
13 Sales tax (Item 10 × Item 12)	<u>\$ 750</u>
14 Monthly loan payment (Terms: <u>12,500</u> , <u>36</u> months, <u>8</u> %)	<u>\$ 392</u>
15 Total payments over term of loan (Item 3 × Item 14)	<u>\$ 14,112</u>
16 Opportunity cost of down payment (Item 2 × Item 6 × Item 11)	<u>\$ 300</u>
17 Estimated value of car at end of loan	<u>\$ 8,000</u>
18 <b>Total cost of purchasing (Item 11 + Item 13 + Item 15 + Item 16 - Item 17)</b>	<u>\$ 9,662</u>
<b>DECISION</b>	
If the value of Item 9 is less than the value of Item 18, leasing is preferred; otherwise the purchase alternative is preferred.	

*Int. rate could earn it # not # tied up in car*

*# I = P x r x t*  
*= 2 x 12*  
*# #*  
*= 3 x 4*  
*= 1,800 x 3 yrs x .04*  
*= P x r x t*  
*assumes get \$300 back, but Mary also have a \$150-\$250 disposition fee when turn car in*  
*given here*  
*2,500 x 3 x .04*  
*be careful to subtract*

\*Note: This form is based on assumed equal terms for the lease and the installment loan, which is assumed to be used to finance the purchase.

*(HW Prob 8)*

worksheet **5.3**



### Home Affordability Analysis for the René and Edward Miller Family

By using the following variables in the home affordability analysis form, the Millers' estimate a maximum home purchase price of \$150,000; their combined annual income of \$48,400; the \$22,500 available for a down payment and paying all closing costs; estimated monthly property taxes and homeowner's insurance of \$150; the lender's 28 percent monthly mortgage-payment affordability ratio; an average interest rate of 7 percent and expected loan maturity of 30 years; and a minimum down payment of 10 percent.

HOME AFFORDABILITY ANALYSIS*		
Name	<i>Renée and Edward Miller</i>	Date <i>July 12, 2005</i>
Item	Description	Amount
1	Amount of annual income	\$ 48,400
2	Monthly income (Item 1 ÷ 12)	\$ 4,033
3	Lender's affordability ratio (in decimal form)	.28
4	Maximum monthly mortgage payment (PITI) (Item 2 × Item 3)	\$ 1,130
5	Estimated monthly property tax and homeowner's insurance payment	\$ 150
6	Maximum monthly loan payment (Item 4 - Item 5)	\$ 980
7	Approximate average interest rate on loan	7%
8	Planned loan maturity (years)	30
9	Mortgage payment per \$10,000 (using Item 7 and Item 8 and Table of Monthly Mortgage Payments in Exhibit 5.11)	\$ 66.53
10	Maximum loan based on monthly income ( $\$10,000 \times \text{Item 6} \div \text{Item 9}$ )	\$ 147,302
11	Funds available for making a down payment and paying closing costs	\$ 22,500
12	Funds available for making a down payment (Item 11 × .67)	\$ 15,000
13	Maximum purchase price based on available monthly income (Item 10 + Item 12)	\$ 162,302
14	Minimum acceptable down payment (in decimal form)	.10
15	Maximum purchase price based on down payment (Item 12 ÷ Item 14)	\$ 150,000
16	Maximum home purchase price (lower of Item 13 and Item 15)	\$ 150,000

*30 in Prob. 8*

*convert % to dec.*

*28% of family gross income*

*copy from table*

*2/3, because 1/3 of \$11 is for closing costs*

*lower of*

\*Note: This analysis assumes that  $\frac{1}{3}$  of the funds available for making the down payment and paying closing costs are used to meet closing costs while the remaining  $\frac{2}{3}$  are available for a down payment. This assumption means that closing costs will represent an amount equal to 50 percent of the down payment.

*closing costs = 50% of the down payment*

*$\frac{1}{3} \div \frac{2}{3} = \frac{1}{2}$   
 $0.50 = \frac{7500}{15000}$  in this example*