Using a Table to find a Monthly Mortgage Payment

Annual rate (r)	Term of Mortgage (Years) (t)					
	5	10	15	20	25	30
4.0%	$18.41652	$10.12451	$7.39688	$6.05980	$5.27837	$4.77415
4.5%	18.64302	10.36384	7.64993	6.32649	5.55832	5.06685
5.0%	18.87123	10.60655	7.90794	6.59956	5.84590	5.36822
5.5%	19.10116	10.85263	8.17083	6.87887	6.14087	5.67789
6.0%	19.33280	11.10205	8.43857	7.16431	6.44301	5.99551
6.5%	19.56615	11.35480	8.71107	7.45573	6.75207	6.32068
7.0%	19.80120	11.61085	8.98828	7.75299	7.06779	6.65302
7.5%	20.03795	11.87018	9.27012	8.05593	7.38991	6.99215
8.0%	20.27639	12.13276	9.55652	8.36440	7.71816	7.33765
8.5%	20.51653	12.39857	9.84740	8.67823	8.05227	7.68913
9.0%	20.75836	12.66758	10.14267	8.99726	8.39196	8.04623
9.5%	21.00186	12.93976	10.44225	9.32131	8.73697	8.40854
10.0%	21.24704	13.21507	10.74605	9.65022	9.08701	8.77572
10.5%	21.49390	13.49350	11.05399	9.98380	9.44182	9.14739
11.0%	21.74242	13.77500	11.36597	10.32188	9.80113	9.52323
11.5%	21.99261	14.05954	11.68190	10.66430	10.16469	9.90291
12.0%	22.24445	14.34709	12.00168	11.01086	10.53224	10.28613

EXAMPLE: Find the monthly payment necessary to amortize $98,000 at 6.5% for 25 years.

In the table above, read down to the row for 6.5% then read across to the column for 25 years.
What is that entry number? 6.75207

This number is the monthly payment amount needed to amortize a lone for $1000. The money amount being amortized is based on increments of $1000.
How many $1000 are we financing for? 98,000 ÷ 1000 = 98

Multiply these two number together to find the monthly payment:

$(6.75207)(98)$

$= \$661.70$

EXAMPLE: Find the monthly payment needed to amortize the principle and interest for each fix-rate mortgage using the chart.

Loan Amount	Interest Rate	Term	Monthly Payment
$70,000	10.0%	20 years	$(9.65022)(70) = \$675.52$
$50,000	11.0%	15 years	$(11.36597)(50) = \$568.30$
$205,000	5.5$	10 years	$(10.85263)(205) = \$2224.79$

Section 13.5 – Financial Investments math 1010

Buying stock in a corporation makes you a part owner of the corporation. You then share in any profits the company makes, and your share of profits is called a **dividend.** If the company prospers (or if increasing numbers of investors believe it will prosper in the future), your stock will be attractive to others, so that you may, if you wish, sell your shares at a profit. The profit you make by selling for more than you paid is called a **capital gain.** A negative gain, or **capital loss,** results if you sell for less than you paid. By **return on investment,** we mean the net difference between what you receive (including your sale price and any dividends received) and what you paid (your purchase price plus any other expenses of buying and selling the stock).

EXAMPLE: Lauren bought 100 shares of stock in a company on January 15, 2010 paying $30 per share. On January 15, 2011, she received a dividend of $0.50 per share and the stock price had risen to $30.85 per share. Find the following:

1. What was Lauren's **total cost** for the stock? $(30)(100) = \$3,000$

2. What was the total **dividend**? $(.50)(100) = \$50$

3. What was Lauren's **capital gain** if she sold her stock in 2011?

$$\begin{array}{r} 30.85 \\ -\ 30.00 \\ \hline .85 \end{array} \qquad (.85)(100) = \$85$$

4. What was Lauren's **total return** on her one year investment?

$$50 + 85 = \$135$$

5. What was Lauren's **percentage return** on her investment?

$$\frac{135}{3000} \times 100 = 4.5\%$$