

Math 155 - Day #12: Amortization Table

We found out how to calculate a monthly mortgage payment based on the length of the loan, amount of the loan, and interest rate

The table below gives the monthly mortgage payment per \$1000 of the loan

	10 years	15 years	20 years	30 years
2.5%	9.43	6.66	5.29	3.95
3%	9.66	6.91	5.55	4.22
3.5%	9.89	7.15	5.80	4.49
4%	10.12	7.40	6.06	4.77
4.5%	10.36	7.65	6.33	5.07
5%	10.61	7.91	6.60	5.37
5.5%	10.85	8.17	6.88	5.68
6%	11.10	8.44	7.16	6.00
6.5%	11.35	8.71	7.46	6.32
7%	11.61	8.99	7.75	6.65
7.5%	11.87	9.27	8.06	6.99
8%	12.13	9.56	8.36	7.34

We also calculated how much interest is paid on a loan

Organizing this data together, we can create an Amortization Table for a loan.

Math 155 - Day #12: Amortization Table

For the first 3 months of a loan, find the monthly payment, interest payment, and amount in principle paid on a 30 year mortgage with a 4.5% interest rate for \$180,000.

Month	Payment	Interest Paid	Princ. Paid	Princ. Remaining
1				
2				
3				

First, we can compute the monthly payment using our Payment table.

With a 4.5% rate for 30 years, the payment is \$5.07 per thousand

$$\text{Monthly payment} = \$5.07 \times 180 = \$912.60$$

$$\text{Interest payment} = \$180,000 \times \frac{.045}{12} = \$675$$

$$\text{Principle payment} = \$912.60 - 675 = \$237.60$$

$$\text{Principle Remaining} = \$180,000 - \$237.60 = \$179,762.40$$

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For the first 3 months of a loan, find the monthly payment, interest payment, and amount in principle paid on a 20 year mortgage with a 3.5% interest rate for \$200,000.

Month	Payment	Interest Paid	Principle Paid	Principle after paid
1				
2				
3				