You have been calculating mortgage payments when given the amortization rate, but where does the amortization rate come from? This is the formula to calculate an amortization rate – you won't ever need to use this formula – it is provided for your interest only:

$$A = P\frac{r(1+r)^n}{(1+r)^n - 1}$$

That is one ugly formula! Most people that work at financial institutions would not use that formula – they would look up the amortization rate on a computer or in a table. Since we don't have a banking program handy, let's look at a ***table*** to find the amortization rate:

Blended payment of principal and interest per $1000 of loan

Amortization Period of Mortgage Loan

Interest Rate	5 years	10 years	15 years	20 years	25 years
4.00%	18.40	10.11	7.38	6.04	5.26
4.25%	18.51	10.23	7.50	6.17	5.40
4.50%	18.62	10.34	7.63	6.30	5.53
4.75%	18.74	10.46	7.75	6.44	5.67
5.00%	18.85	10.58	7.88	6.57	5.82
5.25%	18.96	10.70	8.01	6.71	5.96
5.50%	19.07	10.82	8.14	6.84	6.10

The table would normally cover more possible interest rates, we are looking at a partial table to save paper.

Example 4: Determining the Amortization Rate

Kezia is looking to purchase a house! The cost of the house is $280 000, and she will make a 15% down payment. Her bank offers her a mortgage for the remaining amount at 4.25% for 25 years.

a) Determine the amortization rate for Kezia's mortgage and write it here: $5.40 / 1000

b) Calculate Kezia's monthly mortgage payment

① Mortgage Amount = cost of house − down payment

Down payment = 15% of $280000 → $\frac{15}{100} \times 280\,000 = \$42\,000$

mortgage → $280\,000 - 42000 = \$238\,000$

② monthly mortgage payment = Amortization rate × mortgage

$= \frac{5.40}{1000} \times 238000$

$= \$1285.20$ per month