Question #73795, Math / Financial Math

danielle and jim baraka have obtained a $70,000 mortgage loan at an annual interest rate of 8.00 percent for 30 years. what is the monthly payment, total amount paid, and the total interest?

Solution:

Annuity payment can counting with formula
x=S×(P+P/((1+P)^N-1)), where x - monthly payment, S - existing loan, P- the monthly interest rate/100, N - number of months
x= 70000×(0.0067+0.0067/((1+0.0067)^360-1))=514 - the monthly payment
514×360=185040 - total amount paid
185040 -70000=115040 - total interest will you pay over the life of the existing loan

The differentiated payment can counting with formula
on your existing mortgage is 70000/ 30 year /12 month = 194 - payment body of the loan

70000×8%/12=467 - interest in first month

194+467=661 – total pay in first month

(70000-194)*8%/12 = 465 - interest in second month

194+465=659 – total pay in first month

And summing 467+465+... =84233 the total interest

Answer:

Annuity payment
514 - the monthly payment
185040 - total amount paid
115040 - total interest
The differentiated payment
661,659,…
154233 - total amount paid
84233 the total interest