Quiz 15: LAST QUIZ!!!!!

10pts.

1: You want to buy a house worth $150,000. You have $30,000 for a down payment, and you can get a 15 year mortgage for 6% (compounded monthly). How much will your monthly payment be? Explain the formula you use in one sentence.

\[ d = P \left( \frac{c}{1 - (1+c)^{-n}} \right) = 120,000 \left( \frac{.005}{1 - (1+.005)^{-180}} \right) = \$1012.63 \]

The bank wants $120,000 plus interest at the end of 15 years, and we contribute $1012.63 per month that will accumulate to the target amount.

10pts.

2: You bought a house 5 years ago; you borrowed at 6% interest in a conventional 30 year mortgage. Your monthly payments (principal and interest) are $600. If the house is now worth $200,000 and you sell it on the 5 year anniversary of buying the house, how much equity do you have? Explain in one sentence the computation you have done.

\[ 600 = P \left( \frac{.005}{1 - (1.005)^{-300}} \right) \Rightarrow P = \$93124.12 \]

Equity = 200,000 - P = $106,875.88

P = $93124.12 is the money we still owe the bank (it is the present value of all future payments over 25 years), and the equity is the difference between the value of the house and what we owe.