Math 155 - Day #9: Compound Interest Review

We found that in general, the amount, A, owed on a loan with annual interest rate, r, compounded n times per year for t years is:

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

Suppose that you put \$5500 into a Roth IRA retirement account when you are 25 where you earn 8% interest compounded monthly. How much will be in your account when you retire at 65?

Suppose that you put \$5500 into a Roth IRA retirement account when you are 30 where you earn 8% interest compounded monthly. How much will be in your account when you retire at 65?

Math 155 - Day #8: Compound Interest continued

Suppose that you put $5500 into a Roth IRA retirement account every year from when you are 25 to when you are 30 where you earn 8% interest compounded monthly. How much will be in your account when you retire at 65?

Math 155 - Day #8: Compound Interest continued

Suppose you take out a mortgage for $\$200,000$ to buy your first house. Your mortgage has a 4% interest rate compounded monthly. How much interest will you owe after 1 month?

Suppose that you make a \$955 payment after the first month. How much do you owe on your mortgage after your first payment?

How much interest will you owe in the second month? After another \$955 payment, how much will you owe on your mortgage?