

Name:

Quiz #4

Solve the following problems. Show all of your work and make it clear what your answer is.

1. A research facility has approached you and has offered to pay you to be cryogenically frozen for 85 years. They want to pay you by making a monthly deposit into your savings account that compounds monthly at an APR of 3.6%.

(a) If you want to have \$181,000,000 (\$181 million) dollars when you wake up 85 years from now, how much should you have them deposit each month?

(b) How much (in dollars) of the \$181 million was deposited by the research facility and how much (in dollars) came from interest?

(c) What percentage of the total balance of \$181,000,000 came from interest?

2. Juniper (age 9) wants to have the best lemonade stand on the entire block. In order to do this, she takes out a loan for \$350 from her bank. The interest on her loan is compounded weekly at an APR of 13%.

(a) If she agrees to pay the loan off in 2 years, how much will her weekly payment be? How much will she pay back to the bank over the 2-year loan?

(b) If she agrees to pay the loan off in 1 year, how much will her weekly payment be? How much will she pay back to the bank over the 1-year loan?

(c) How much (in dollars) will Juniper save in interest by paying the loan off in 1 year instead of 2 years?