

MA 162 Recitation Worksheet Thursday December 4

1. If a merchant deposits \$1500 at the end of each tax year in an IRA paying interest at the rate of 4%/year compounded annually, how much will she have in her account at the end of 25 years?
2. Karen has been depositing \$150 at the end of each month in a tax-free retirement account since she was 25. Matt, who is the same age as Karen, started depositing \$250 at the end of each month in a tax-free retirement account when he was 35. Assuming that both accounts have been and will be earning interest at a rate of 4%/year compounded monthly, who will end up with the larger retirement account at the age of 65?
3. A city has \$2.5 million worth of school bonds that are due in 20 years and has established a sinking fund to retire this debt. If the fund earns interest at the rate of 4%/year compounded annually, what amount must be deposited annually in this fund?
4. Robin wishes to accumulate a sum of \$450,000 in a retirement account by the time of her retirement 30 years from now. If she wishes to do this through monthly payments into the account that earn interest at the rate 6%/year compounded monthly, what should be the size of each payment?
5. After making a down payment of \$25,000, the Meyers need to secure a loan of \$280,000 to purchase a certain house. Their bank's current rate for 25-year home loans is 5.5%/year compounded monthly. The owner has offered to finance the loan at 4.9%/year compounded monthly. Assuming that both loans would be amortized over a 25-year period by 300 equal monthly installments, determine the difference in the amount of interest the Meyers would pay by choosing the seller's financing rather than their bank's.