

Math 110 Fall 2001
Sample Exam 3

1. Suppose that you have been self-employed and have established your own retirement savings plan by depositing 5% of your income into a bank savings account over the past 30 years. You are now ready to retire and your account balance is \$343,500. You are 60 years old today.
 - (a) You arrange for equal monthly withdrawals from the account over the next 30 years. If the first withdrawal will occur one month from today, and the last one will occur on your 90'th birthday, the account will pay interest at the rate 6.4% compounded monthly, what is you monthly withdrawal?
 - (b) What is your monthly withdrawal if the first withdrawal will occur now and the last withdrawal will occur one month before your 90'th birthday?
2. Use the mortality table to find probability that a person alive at the age of 41 will survive to the age 78.
3. If the Consumer Price Index for 1965 was 31.5 and CPI for 1994 was 148.2, what is the value of \$8,000 dollars salary received in 1965 it terms of 1994 dollars?
4. A married couple is filling a 1995 tax return using married, filing jointly status. Use the Tax Rate Schedule for 1995 to find their tax if their taxable income was \$255,000. What is the marginal tax rate?
5. Suppose you deposit \$3,500 annually on a savings account, making a total of 3 deposits, starting from today. The account pays 7% of interest, compounded annually.
 - (a) What is the balance on the account at the end of the fourth year if you withdraw enough money to pay 28% tax on interest every year?
 - (b) Suppose the account is tax deferred. You make a withdrawal after 4 years and pay 28% of tax. How much is left for you to spend?
6. Suppose you have worked for a tax-exempt organization for 18 years as of 12/31/95, you annual salary for 1996 was \$43,000, and you have deferred a total of \$76,000 for the first18 years. How much you can contribute to a tax-deferred annuity during 1996 if only the Exclusion Allowance Limitation and Dollar and Compensation limits are to be satisfied?