

ÇANKAYA UNIVERSITY
Department of Mathematics and Computer Science

MATH 109
Math for Business

2nd Midterm
Dec 11, 2006
17:40-19:10

Surname : _____
Name : _____
ID # : _____
Department : _____
Section : _____
Instructor : _____
Signature : _____

- The exam consists of 6 questions.
- Please read the questions carefully and write your answers under the corresponding questions. Be neat.
- Show all your work. Correct answers without sufficient explanation might not get full credit.
- Calculators are allowed. You can use only your own calculator.

GOOD LUCK!

Please do not write below this line.

Q1	Q2	Q3	Q4	Q5	Q6	TOTAL
15	15	15	20	15	25	105

1. (15 pts.) If an investor wants to earn an annual interest rate 6.4% on a 26-week T-bill with a maturity value of \$5,000, how much should the investor pay for the T-bill?

2. (15 pts.) A person with \$8,000 is trying to decide whether to purchase a car now, or to invest the money at 6.5% compounded semiannually and then buy a more expensive car. How much will be available for the purchase of a car at the end of 3 years?

3. (15 pts.) You can afford monthly deposits of only \$200 into an account that pays 7.98% compounded monthly. How long will it be until you have \$2,500 to buy a boat? (Round the next higher month if not exact.)

4. (20 pts.) You want to purchase a home for \$150,000 with a traditional 30 year loan with monthly payments at the end of each month. What is your monthly payment at 8% compounded monthly? How much would you pay for the house?

5. (15 pts.) For the first 6 months of the year, the nominal annual rate is 5% compounded quarterly. For the last 6 months, it is 4% compounded monthly. To the nearest two decimal places, what is effective annual rate?

6. (25 pts.) Find the limits if they exist

a) $\lim_{x \rightarrow 2} \left(\frac{1}{x+2} + \frac{x-2}{x^2-4} \right)$

b) $\lim_{x \rightarrow 1} \frac{\sqrt{3+x} - 2}{x-1}$
