King Fahd University of Petroleum & Minerals
Department of Math and Stat
Math 131-2 Semester 162 - Exam 2

Name_____ ID No._____

20 Points: Q1 = 3, Q2 = 3, Q3 = 3, Q4 = 3, Q5 = 4, Q6 = 4

1) You have a choice of two banks. One bank pays interest at 5.4% compounded monthly and the other bank pays interest at 5.2% compounded daily (365 times a year). Which is the better choice? Why?

2) A debt of $1000 due 4 years from now and $1500 due 7 years from now, is instead to be paid off by a single payment 5 years from now. How much is the payment if an interest rate of 8.4% compounded monthly is assumed?

3) Suppose you deposit $200 at the end of every month into a bank account that pays 6% compounded monthly. After six years, how much will you have?

4) A woman makes house payments of $4200 at the beginning of every quarter. If the woman wishes to pay $2\frac{1}{2}$ year's worth of payments in advance, how much should she pay provided that the interest rate is 5.4% compounded quarterly?

5) Maximize

$$Z = x_1 - 2x_2 + 3x_3$$

subject to

$$\begin{aligned} 2x_1 + x_2 + 2x_3 &\le 10 \\ x_1 - x_2 + x_3 &\le 8 \\ x_1, \quad x_2, \quad x_3 &\ge 0 \end{aligned}$$

6) Use the corner point technique.

A company has two different locations to assemble three different models of PCs. The table below summarizes the daily production capacity, the minimum number of each type needed, and the daily operating costs for each location. Find the number of days that each location needs to operate in order to fill the orders at minimum cost and find the minimum cost.

	Location 1	Location 2	Minimum Number
Model 1	6/day	6/day	240
Model 2	4/day	8/day	200
Model 3	6/day	4/day	180
Daily Cost	$1600	$1200	