**Math 231 – HW 9 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Epp 2nd Ed. 4.1 1 - 3, 10 - 12, 14, 19, 21, 26, 28, 48 - 51

8.1 1, 2, 3, 5, 8, 29, 30

*Write the first four terms of the sequences defined by the formulas:*

**4.1 (1)**

**4.1 (2)**

**4.1 (3)**

*Find explicit formulas for the given sequences. You may start counting at either 0 or 1, whichever seems more convenient.*

**4.1 (10)** -1, 1, -1, 1, -1, 1, ...

**4.1 (11)** 0, 1, -2, 3, -4, 5, ...

**4.1 (12)**

**4.1 (14)**

*Compute the sums. Write out the individual terms as an intermediate step.*

**4.1 (19)** 

**4.1 (21)** 

*Write the summations in expanded form, simplifying each term. Write at least five terms, then also remember to write the final term.*

**4.1 (26)** 

**4.1 (28)** 

*Compute each answer. If necessary, write your answer as a fraction instead of a decimal.*

**4.1 (48)**

**4.1 (49)**

**4.1 (50)**

**4.1 (51)**

*Write the first four terms of the sequences defined by the recursive formulas:*

**8.1 (1)**

**8.1 (2)**

**8.1 (3)**

**8.1 (5)**

**8.1 (8)**

*Answer each question:*

**8.1 (29)** Suppose a certain amount of money is deposited in an account paying 8% annual interest compounded quarterly. For each positive integer n, let Rn = the amount on deposit at the end of the nth quarter, assuming no addtional deposits or withdrawals during the year, and let R0 be the initial amount deposited.

**(a)** Find a recurrence relation for R0, R1, R2, ... ,

**(b)** If R0 = $500, find the amount of money on deposit at the end of one year.

**8.1 (30)** Suppose a certain amount of money is deposited in an account paying 6% annual interest compounded monthly. For each positive integer n, let Sn = the amount on deposit at the end of the nth month, and let S0 be the initial amount deposited.

**(a)** Find a recurrence relation for S0, S1, S2, ... , assuming no addtional deposits or withdrawals during the year.

**(b)** If S0 = $1000, find the amount of money on deposit at the end of one year.