

## Homework 1

CISC1100, Fall 2009

Due Sept 15, Tuesday

1. For the following sequence, fill in the next two terms of the sequence. Explain how you got it. Then provide a closed formula or recursive formula for the sequence.

a. 2, 9, 16, 23, 30, \_\_, \_\_

b. 2, 8, 32, 128, \_\_, \_\_

2. For the following sequences given by recursive formula, identify the sequence's closed formula:

a.  $a_1=3$

$$a_n=14+a_{n-1}$$

b.  $b_1=2$   
 $b_n=3b_{n-1}$

3. Evaluate the following summation

a.  $\sum_{i=2}^5 (2i + 1)$

b.  $\sum_{i=0}^3 (i^2 + 1)$

4. Express the following summations using big sigma notations

a.  $1+11+21+31+41$

b.  $1+2+4+8+16+32$