

Name: \_\_\_\_\_

## CIS 351 Sample NR3 Problem

### NR3: Hexadecimal

When converting, go *directly* between binary and hexadecimal. Do *not* convert to decimal

- (a) Convert **43ca** from hexadecimal to binary:
  
- (b) Convert **111101011010010** from binary to hexadecimal:
  
- (c) Write the six successive hexadecimal numbers by following the hexadecimal counting pattern. Do *not* convert to decimal or any other number base. Add notes to the right documenting your thought process. (You need only enough notes to convince me that you didn't just convert to base 10 on a scratch sheet of paper.)  
 $x$ : 0x5b98  
 $x + 1$ : \_\_\_\_\_  
 $x + 1$ : \_\_\_\_\_  
 $x + 1$ : \_\_\_\_\_  
 $x + 1$ : \_\_\_\_\_  
 $x + 1$ : \_\_\_\_\_  
 $x + 1$ : \_\_\_\_\_

# CIS 351 Sample NR3 Problem Solutions

## NR3: Hexadecimal

When converting, go *directly* between binary and hexadecimal. Do *not* convert to decimal

- (a) Convert 43ca from hexadecimal to binary: 100001111001010 (Leading 0s are optional.)
- (b) Convert 111101011010010 from binary to hexadecimal: 7ad2 (Subscript is optional)
- (c) Write the six successive hexadecimal numbers by following the hexadecimal counting pattern. Do *not* convert to decimal or any other number base. Add notes to the right documenting your thought process. (You need only enough notes to convince me that you didn't just convert to base 10 on a scratch sheet of paper.)
- |           |              |
|-----------|--------------|
| $x$ :     | 0x5b98       |
| $x + 1$ : | _____ 0x5b99 |
| $x + 1$ : | _____ 0x5b9a |
| $x + 1$ : | _____ 0x5b9b |
| $x + 1$ : | _____ 0x5b9c |
| $x + 1$ : | _____ 0x5b9d |
| $x + 1$ : | _____ 0x5b9e |