COMP 3350 Homework #1

Please show work (where needed) for each problem

1. How many bits are in:
    a. A byte
    b. A word
    c. A doubleword

2. Convert the following unsigned base2 numbers (binary) to base 16 numbers (hexadecimal):
    a. 0110 0001 1111
    b. 1000 1111 1100
    c. 0001 0110 0100 0101

3. Convert the following signed base 2 numbers to base 10 numbers:
    a. 1100 1010
    b. 1111 0010
    c. 1000 0111

4. What is the range of (e.g. range of an unsigned nibble is 0 to 15):
    a. An unsigned 7-bit number?
    b. A signed 7-bit number?

5. Provide the answer to following problems (∧ = AND ∨ = OR)
    a. 1000 ∧ 1110
    b. 1000 ∨ 1110
    c. (1000 ∧ 1110) ∨ (1001 ∧ 1110)
6. List all general purpose registers in 32-bit mode

7. Find the hexadecimal ASCII values for the following charters:
    a. g
    b. ^
    c. $

8. In a typical personal computer list from largest size (i.e. most total memory) to smallest:
    a. DRAM (main memory)
    b. SRAM (cache memory)
    c. Hard drive
    d. Registers