

Write clearly.

You may show your work, but then circle your answers please.

1. You are given a byte of memory with the following bit pattern: 11111111  
What decimal value will the byte contain after the following three operations have completed?

bit-shift right 2  
bit-shift left 4  
bit-shift right 2

2. Start with the final value of the byte from question 1 above.  
What value will be produced by the following operation?

byte & 12

3. What is the sum of the three binary numbers below? Show answer in binary.

10110110  
00111011  
11100011  
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4. Show your answer for question #3 above, as decimal and hexadecimal values.

5. Which bit of a binary number can be used to determine if the value is even or odd?

A. any even numbered bit  
B. the second bit  
C. the most significant bit  
D. the least significant bit

6.

\_\_\_\_\_ a. What is the largest value that can be stored in one byte of memory?

\_\_\_\_\_ b. How many different values can be stored in one byte of memory?