# Number base conversion and binary arithmetic

Please try to do these problems yourself. Make note of what you don't understand how to do.

1. Convert 201 base10 to 8-bit binary
   (1 Point)

   11001001

2. Convert 201 base10 to base 3 using the division method (5-digit answer ddddd)
   (1 Point)

   21110

3. Convert 11 1110 0111 binary to hexadecimal
   (1 Point)

   3E7

4. Convert C0FE base16 to binary (answer with space between 4 digits: dddd dddd dddd dddd)
   (1 Point)

1100 0000 1111 1110

5. Compute 1011 0101 + 0101 1011 in regular binary (not sign-magnitude). Write your answer in 8-bit binary.
(1 Point)

1 0001 0000

6. Is there overflow in the previous question?
(1 Point)

- (●) Yes
- ( ) No

7. Compute 0010 1101 - 0001 0111 (regular binary) Write your answer in 8-bit binary.
(1 Point)

0001 0110

8. Convert 105 base10 to 8-bit binary representation
(1 Point)

1101001

9. Convert -105 base10 to 8-bit signed magnitude representation
(1 Point)

1101001

10. Convert -105 base10 to 8-bit 2's complement representation
(1 Point)

0010111

11. Convert 105 base10 to excess-M representation, (use the lowest possible M)
(1 Point)

1100010

12. What areas do you think you need more practice on?
(1 Point)

- base conversion
- binary arithmetic
- 2's complement representation
- excess-M representation
- signed-magnitude representation