

**CSCI 211 Spring 2009**  
**QUIZ 4**  
Assigned Monday, 09-02-02

1. Convert  $100_{10}$  to binary. Represent your result as an 8-bit 2's complement number. Call the result  $a$ . **Answer:** 01100100
2. Convert  $30_{10}$  to binary. Represent your result as an 8-bit 2's complement number. Call the result  $b$ . **Answer:** 00011110
3. Find the 2's complement of  $b$ . Call it  $b^*$ . **Answer:** 11100010
4. Do  $a - b$  by summing  $a$  and  $b^*$ . **Answer:** 010000110 (check: 70 decimal)
5. Do  $a + b$ . Is there an overflow? How can you tell? **Answer:** Yes. The sign of the result is different from the common sign of the addends.