REVIEW #2 - NUMBER SYSTEMS

1. Solve for X_2: $X_2 = 1074_8 + 213_{16}$

2. What hexadecimal number when increased by 64_{16} equals 532_{16}?

3. Convert each expression to binary. Ignoring leading zeros, which binary answers contain more 1's than 0's? List all of them.

   A. 42_8 B. $3A_{16}$ C. 92_{10} D. 1011_2 E. 214_8

4. Solve for X_{16}: $X_{16} = 11_2 + 26_8 - 15_{10}$

5. Given 343_8 and 11101101_2

   Determine:

   A) which is the larger

   B) Calculate the positive difference in hexadecimal.

6. Convert $B2A3_{16}$ to octal.

7. Convert 473_8 to hexadecimal.

8. How many more 1's are there in the binary representation of $2F3_{16}$ than in the binary representation of $16E_{16}$?

9. Solve for X_{16}: $100101_2 + X_{16} = 1101101010_2$

10. Determine the number of 1's in the binary representation of the solution of the following expression:

$$(743_8 - AF_{16} + 110100101000_2) * 256_{10}$$

ANSWERS:

1. 10001001111_2
2. $4CE_{16}$
3. B, C, and D
4. A_{16}
5.
   a. 11101101_2
   b. A_{16}
6. 131243_8
7. $13B_{16}$
8. 1
9. 345_{16}
10. 7