7)

Convert to hex, then give the ASCii code for the resulting hex number

$(212.2)_{10}$ to 16

212 % 16 = 13 r 4 4
13 % 16 = 0 r 13 D

.2 × 16 = 3.2
.2 × 16 = 3.2

D4.33$\overline{3}$

$\boxed{D4.3}$

D	= 1000100	=	13
4	= 0110100	=	4
.	= 0101110	=	46
3	= 0110100	=	3

7B)

B) $(181.18)_{10}$

$181 \% 16 = 11 \; r5 \to 5$
$11 \% 16 = 0 \; r11 \to B$

$.18 \times 16 = 2.88 \to 2$
$.88 \times 16 = 14.08 \to E$
$.08 \times 16 = 1.28 \to 1$
$.28 \times 16 = 4.48 \to 4$
$.48 \times 16 = 7.68 \to 7$
$.68 \times 16 = 10.88 \to A$

5B.2E147A

5	011 0101
B	1000010
.	0101110
2	011 0010
E	1000101
1	011 0001
4	011 0100
7	011 0111
A	1000001

8

A - B = A + (B) subtracting signed numbers can be accomplished by adding the complement. Add the complement Indicate overflow, then repeat using 2's complement.

A) 11010   -10 = 2
- 11100   - (-12)

1
11010
+ 00011
$\boxed{11101}$

2's complement flip add 1
11010
00100
11110 $\boxed{11110}$

1's complement just flip the bits

B) 01011
- 11100

2's complement

11
01011
+ 00011
01110

$\boxed{01110}$

01011
+ 00100
01111 $\boxed{01111}$

C)

$$\begin{array}{r} 10111 \\ -\ 11010 \\ \hline \end{array}$$

$$\begin{array}{r} 1\,1\,1 \\ 10111 \\ +\ 00101 \\ \hline \boxed{11100} \end{array}$$

$$\boxed{11100}$$

$$\begin{array}{r} 1 \\ 00101 \\ 1 \\ \hline 00110 \end{array}$$

2's Complement

$$\begin{array}{r} 1\,1 \\ 10111 \\ +\ 00110 \\ \hline 11101 \end{array}$$

$$\boxed{11101}$$

D)

$$\begin{array}{r} 10111 \\ -\ 11010 \\ \hline \end{array}$$

$$\begin{array}{r} 1\,1\,1 \\ 10111 \\ +\ 00101 \\ \hline 11100 \end{array}$$

$$\boxed{11100}$$

$$\begin{array}{r} 1 \\ 00101 \\ +\ \quad 1 \\ \hline 00110 \end{array}$$

$$\begin{array}{r} 1\,1 \\ 10111 \\ 00110 \\ \hline 11101 \end{array}$$

$$\boxed{11101}$$

9)

Construct a table for 4-3-2-1 weighted code and write 8147

0	0 0 0 0
1	0 0 0 1
2	0 0 1 0
3	0 1 0 0
4	1 0 0 0
5	1 0 0 1
6	1 0 1 0
7	1 1 0 0
8	1 1 0 1
9	1 1 1 0
10	1 1 1 1

8147 = 1101000011000 1100