

.) B). 32: $(00100000)_2 = 20h$
 .70: $\begin{array}{r} 70 \\ -64 \\ \hline 6 \\ -4 \\ \hline 2 \end{array}$ $(01000110)_2 = 46h$

.66: $(01000010)_2 = 42h$

.247: $\begin{array}{r} 247 \\ -128 \\ \hline 119 \\ -64 \\ \hline 55 \\ -32 \\ \hline 23 \\ -16 \\ \hline 7 \\ -4 \\ \hline 3 \\ -2 \\ \hline 1 \end{array}$

$(1110111)_2 = F7h$

.216: $\begin{array}{r} 216 \\ -128 \\ \hline 88 \\ -64 \\ \hline 24 \\ -16 \\ \hline 8 \end{array}$

$(11011000)_2 = D8h$

.) A). $\begin{array}{r} 00100000 \\ 11011111 \\ \hline 11100000 \end{array}$

. $\begin{array}{r} 01000110 \\ 10111001 \\ \hline 10111010 \end{array}$

. $\begin{array}{r} 11110111 \\ 00001000 \\ \hline 00001001 \end{array}$

. $\begin{array}{r} 11011000 \\ 00100111 \\ \hline 00101000 \end{array}$

. $\begin{array}{r} 01000010 \\ 10111101 \\ \hline 10111101 \end{array}$

B). $\begin{array}{r} FF \\ -20h \\ \hline DF \\ +1 \\ \hline E0h \end{array}$ $\begin{array}{r} FF \\ -46h \\ \hline B9 \\ +1 \\ \hline BAh \end{array}$ $\begin{array}{r} FF \\ -F7 \\ \hline 08 \\ +1 \\ \hline 09h \end{array}$ $\begin{array}{r} FF \\ -D8h \\ \hline 27 \\ +1 \\ \hline 28h \end{array}$ $\begin{array}{r} FF \\ -42h \\ \hline BD \\ +1 \\ \hline BEh \end{array}$

.) A). $(01010000)_2$
 $64 + 16 = 80$

. $(11100001)_2$
 $128 + 64 + 32 + 1$
 $\begin{array}{r} 128 \\ +97 \\ \hline 225 \end{array}$

. $(01010100)_2$
 $64 + 16 + 4$
 $= 84$

. $(11110001)_2$
 $128 + 64 + 32 + 16 + 1$
 $= 128 + 80 + 33$
 $= 128 + 113$
 $= 241$

. $(11101110)_2$
 $128 + 64 + 32 + 8 + 4 + 2$
 $= 128 + 96 + 14$
 $= 128 + 110$
 $= 238$

B). 80

. $\begin{array}{r} 00011110 \\ +1 \\ \hline 00011111 \\ 16 + 8 + 4 + 2 + 1 \\ \hline = -31 \end{array}$

. 84

. $\begin{array}{r} 00001110 \\ +1 \\ \hline 00001111 \\ = 81 + 2 + 1 \\ = -15 \end{array}$

. $\begin{array}{r} 00010001 \\ +1 \\ \hline 00010010 \\ = 16 + 2 \\ = -18 \end{array}$

C). $50h$

. $E1h$

. $54h$

. $F1h$

. EEh

1.) A.) $\begin{array}{r} 01010000 \\ + 11100001 \\ \hline 0011000116 \end{array}$ $\begin{array}{r} 01010000 \\ + 01010100 \\ \hline 101001006 \end{array}$ $\begin{array}{r} 01010000 \\ + 11110001 \\ \hline 010000016 \end{array}$ $\begin{array}{r} 01010000 \\ + 11101110 \\ \hline 001111106 \end{array}$

B.) $\begin{array}{r} 01010000 \\ - 11100001 \rightarrow 00011111 \\ \hline 01010000 \\ + 00011111 \\ \hline 011011116 \end{array}$ $\begin{array}{r} 01010000 \\ - 01010100 \rightarrow 10101011 \\ \hline 01010000 \\ + 10101100 \\ \hline 11111100 \end{array}$ $\begin{array}{r} 01010000 \\ 11110001 \rightarrow 00001111 \\ \hline 01010000 \\ + 00001111 \\ \hline 010111116 \end{array}$

$\begin{array}{r} 01010000 \\ - 11101110 \rightarrow 00010010 \\ \hline 00010010 \end{array}$

$\begin{array}{r} 01010000 \\ + 00010010 \\ \hline 011000106 \end{array}$

4.) C.) $\begin{array}{r} 01010000 \\ \wedge 11100001 \\ \hline 01000000 \end{array}$ $\begin{array}{r} 01010000 \\ \wedge 01010100 \\ \hline 01010000 \end{array}$ $\begin{array}{r} 01010000 \\ \wedge 11110001 \\ \hline 01010000 \end{array}$ $\begin{array}{r} 01010000 \\ \wedge 11101110 \\ \hline 01000000 \end{array}$

D.) $\begin{array}{r} 01010000 \\ \vee 11100001 \\ \hline 11110001 \end{array}$ $\begin{array}{r} 01010000 \\ \vee 01010100 \\ \hline 01010100 \end{array}$ $\begin{array}{r} 01010000 \\ \vee 11110001 \\ \hline 11110001 \end{array}$ $\begin{array}{r} 01010000 \\ \vee 11101110 \\ \hline 11111110 \end{array}$

E.) $\begin{array}{r} 01010000 \\ \oplus 11100001 \\ \hline 10110001 \end{array}$ $\begin{array}{r} 01010000 \\ \oplus 01010100 \\ \hline 00000100 \end{array}$ $\begin{array}{r} 01010000 \\ \oplus 11110001 \\ \hline 10100001 \end{array}$ $\begin{array}{r} 01010000 \\ \oplus 11101110 \\ \hline 10111110 \end{array}$

5.) 4A59A194h : 0100 1010 0101 1001 1010 0001 1001 0100b
 • 115D1777h : 0001 0001 0101 1101 0001 0111 0111 0111b
 • B51FDABEh : 1011 0101 0001 1111 1101 1010 1011 1110b
 • 5749998Fh : 0101 0111 0100 1001 1001 1001 1000 1111b
 • D7E588D4h : 1101 0111 1110 0101 1000 1000 1101 0100b

$$\begin{array}{r} \text{F.) } \cdot 4A59A194h \\ + 115D1777h \\ \hline \text{D } 5B6B90Bh \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ + B51FDABEh \\ \hline \text{D } FF79C52h \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ + 5749998Fh \\ \hline \text{D } A1A33B23h \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ + D7E588D4h \\ \hline \text{D } 223F2A68 \end{array}$$

$$\begin{array}{r} \text{G.) } \cdot 4A59A194h \\ - 115D1777h \rightarrow \begin{array}{r} \text{FFFFFFFF} \\ - 115D1777 \\ \hline EEA2E888 \\ +1 \\ \hline EEA2E889h \end{array} \\ \hline \cdot 4A59A194h \\ + EEA2E889h \\ \hline \text{D } 38FC8A1D \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ - B51FDABEh \rightarrow \begin{array}{r} \text{FFFFFFFF} \\ - B51FDABE \\ \hline 4AE02541 \\ +1 \\ \hline 4AE02542 \end{array} \\ \hline \cdot 4A59A194h \\ + 4AE02542h \\ \hline \text{D } 9539C6D6h \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ - 5749998Fh \rightarrow \begin{array}{r} \text{FFFFFFFF} \\ - 5749998F \\ \hline A8B66670 \\ +1 \\ \hline A8B66671h \end{array} \\ \hline \cdot 4A59A194h \\ + A8B66671h \\ \hline \text{D } F3100805h \end{array}$$

$$\begin{array}{r} \cdot 4A59A194h \\ - D7E588D4h \rightarrow \begin{array}{r} \text{FFFFFFFF} \\ - D7E588D4 \\ \hline 281A772B \\ +1 \\ \hline 281A772C \end{array} \\ \hline \cdot 4A59A194h \\ + 281A772Ch \\ \hline \text{D } 727418C0h \end{array}$$

6.) H.) • 4A59A194h
1115D1777h
 00590114

• 4A59A194h
1B51FDABEh
 00198094

• 4A59A194h
15749998Fh
 42498184

• 4A59A194h
1D7E588D4h
 42418094

I.) • 4A59A194h
V115D1777h
 5B5DB7F7

• 4A59A194h
VB51FDABEh
 FF5FFBBE

• 4A59A194h
V5749998Fh
 5F59899F

• 4A59A194h
VD7E588D4h
 DFFDA9D4

J.) • 4A59A194h
0115D1777h
 5B04B6E3

• 4A59A194h
0B51FDABEh
 FF467B2A

• 4A59A194h
05749998Fh
 1D10381B

• 4A59A194h
0D7E588D4h
 9DBC2940

0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001
A	1010
B	1011
C	1100
D	1101
E	1110
F	1111