3. A) 11111000

1(0)+2(0)+4(0)+8(1)+16(1)+32(1)+64(1)+128(1)=248

248

B) 11001010

1(0)+2(1)+4(0)+8(1)+16(0)+32(0)+64(1)+128(1)=202

202

C) 11110000

1(0)+2(0)+4(0)+8(0)+16(1)+32(1)+64(1)+128(1)=240

240

11.A) 1100 1111 0101 0111

1100= C 1111= F 0101= 5 0111= 7

CF57

B) 0101 1100 1010 1101

0101= 5 1100= C 1010= A 1101= D

5CAD

C) 1001 0011 1110 1011

1001= 9 0011= 3 1110= E 1011= B

93EB

13. A) E5B6AED7

1110 0101 1011 0110 1010 1110 1101 0111

B) B697C7A1

1011 0110 1001 0111 1100 0111 1010 0001

C) 234B6D92

0010 0011 0100 1011 0110 1101 1001 0010

17.A) -26

26= 0001 1010 Reverse the bits-> 1110 0101 Add 1-> 1110 0110

1110 = E 0110= 6

FFE6

B) -452

452= 0000 0001 1100 0100 Reverse the bits-> 1111 1110 0011 1011

Add 1-> 1111 1110 0011 1100

FE3C

21.A) 1011 0101 first digit is 1, therefore it is a negative number

0100 1010 0100 1011

-1\*(64+8+2+1)= -75

B) 0100 1010 first digit is 0, therefore it is a positive number

64+8+2=74

C) 1111 0000 first digit is 1, therefore it is a negative number

0000 1111 0001 0000

-1\*16=-16

6. ¬(A ∨ B)

|  |  |  |
| --- | --- | --- |
| A | B | ¬(A ∨ B) |
| T | T | F |
| T | F | F |
| F | T | F |
| F | F | T |

7. (¬A ∧ ¬B)

|  |  |  |
| --- | --- | --- |
| A | B | (¬A ∧ ¬B) |
| T | T | F |
| T | F | F |
| F | T | F |
| F | F | T |