```
CPEIII HW#1 Solutions.
Givone 2.10
  b. 110111.1012 = 32+16+4+2+1+0.5+0.115
                  = 55.625,0
```

= 829,25,0

$$f. 1475.28 = 1 \times 8^{3} + 4 \times 9^{2} + 7 \times 8^{1} + 5 \times 8^{0}$$

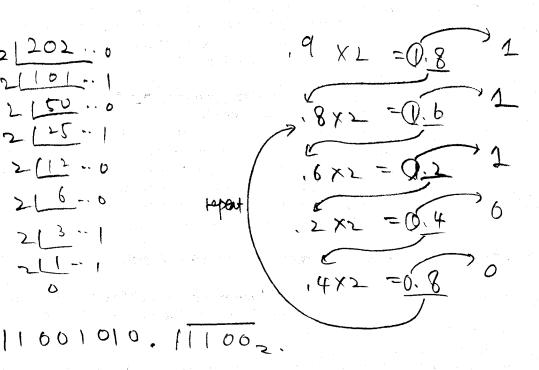
$$+ 2 \times 8^{7} = 512 + 256 + 56 + 57 + 0.25$$

h.
$$AD.E_{16} = 10 \times 16^{1} + 13 \times 16^{6} + 14 \times 16^{-1}$$

= $160 + 13 + 0.875 = 173.875_{10}$

1.

Givone 2.14



$$2. q. 2^2 = 4$$

$$c. 26 = 64$$

3. a.
$$8MB = 8 \times 2^{20} \times 8 = 67168864$$
 bits

eucodory table

D2 D1 D0	Difection.
000	~ N
001	5 L
010	E
011	W
106	NE
101	NM
(10	SE
	SW

For Gladditional directions...
We need an additional bit
To word PERECTION.

Also, the unpmy table should be updated, too.

D3 P2D, Do	pitection
0000	N
0001	S
00 10	E
0011	W
0100	HE
0101	NW LA
0110	SE
0111	SW
1000	LNW
1001	PHE
1010	W 22
TON	SS E

The other bit parterns are not used.

```
a. 101111_2 = 32 + 8 + 4 + 2 + 1 = 47_{10}
    b. 0116002= 16 +8 = 24,0
    C_1 = 1110112 = 32 + 16 + 8 + 2 + 1 = 5310
    d. 011101 = 16+8+4+1= 2910
   a. 0 1110100 = 164+32+16+4 = 11610
    6. 11001001 = 129+64+8+1= 20110
    C. 10000010 = 118+2= 13010
                                  C. 2/2/2 "0
7. a. 2/125.1 b. 2/153.1
                                      2/106 - 0
       2/62.0
                      2176-0
                                      2-153 --1
                      2 (38 -0
      2/3/11
                                     2/26-0
                    2/19-1
       2/15-1
     12 2 1 7 -1 yam 2 19 -1 -1
                                      2/3-1
                     214-6
                                      21600
        2/3.1
                      5 15 .. 0
        211-1
                                      5 (3 .. 1
                       5/1-1
                                       211-1
  → 1111101<sub>2</sub> → 10011001<sub>2</sub>
                                   =) 11010100;
8. a. 0x IFBI = 0001/11/10 1/00 01.
              = 811310
    L. DXDACC = 0000 1010 1100 1100 2
           = 2764,0
    0.0x11F2 = 0111 0001 1111 0010
             = 2917010
    d. 0×70BA = 0111 0000 1011 1010 = 28858,0
    I + can display 0 - 9999. SO, 10000 bit patforms are meaded.
    So, the min word site has to be. 14 bits.
            \tau_{14} > 10000 > \tau_{13}
```