Honework #1 Phys 306 61. Bing to decide 21. 1010 8 + 0 + 2 = 14 B). 1010 8 + 0 + 2 = 19 B). 1010 8 + 0 + 2 = 19 C). 10100 = 16 $2^{11} 2^{2}$ E). 10101 = $16 + 4 + 2^{2} - 21$ E). 10101 = $16 + 4 + 2^{2} - 21$ E). 10101 = $16 + 4 + 2^{2} - 21$ B). 10111 $16 + 4 + 2 + 1 = 23$ H). (1111 $2^{6} + 2^{7} + 2^{7} + 2^{7} + 2^{7} + 2^{7} = 31$ 8). Indirect decide (2 ⁿ -1)	Horb E6
6). Brig to delibrit at $2 + 4 + 2 = 14$ 8). $1010 = 6 + 4 + 2 = 10$ (). $11100 = 16 + 4 + 2 = 28$ D). $10000 = 16$ E). $10101 = 16 + 4 + 2 = 28$ F). $11101 = 16 + 8 + 4 + 1 = 29$ 10. $10111 = 16 + 8 + 4 + 1 = 29$ 11. $11111 = 16 + 8 + 4 + 1 = 29$ 12. $11111 = 16 + 16 + 16 + 16 + 16 = 16$ 8). $10111 = 16 + 16 + 16 + 16 = 16$ 10. $10111 = 16 + 16 + 16$	
8). $1000 = 10$ (1). $10000 = 10$ (2). $10000 = 10$ (3). $10000 = 10$ (4). $10000 = 10$ (5). $10100 = 104442^{\frac{1}{2}} = 28$ (6). $10100 = 104442^{\frac{1}{2}} = 28$ (7). $10100 = 104442^{\frac{1}{2}} = 28$ (8). $10100 = 104442^{\frac{1}{2}} = 28$ (9). $10110 = 104442^{\frac{1}{2}} = 28$ (10). $10111 = 1044442^{\frac{1}{2}} = 28$ (10). $10111 = 10444442^{\frac{1}{2}} = 28$ (10). $10111 = 10444444444444444444444444444444$	
8). 1010 8+0+2=10 (). 11100 16+6+4 = 28 D). 10000 = 16 $2^{4} 2^{2} 1$ E). 10101 = 16+4+2=21 $2^{2} 2^{2} 1$ E). 10101 = 16+8+4+1 = 29 $2^{2} 2^{2} 2^{2} 1$ E). 11101 = 16+8+4+1 = 29 H). 11111 $2^{6}+2^{4}+2^{2}+2^{4}+2^{4}=31$ 8). 10111 $16+4+2+1=23$ H). 11111 $2^{6}+2^{4}+2^{2}+2^{4}+2^{4}=31$ 8). 10112 $2^{6}+1=31$ (a). $(2^{8}+1)=255$ b). $(2^{2}-1)=3$ D). $(2^{6}+1)=63$ (b). $(2^{4}+1)=511$ C). $(2^{4}-1)=15$ E). $(2^{6}+1)=63$ (d). $(2^{4}+1)=511$ C). $(2^{4}-1)=15$ E). $(2^{6}+1)=127$ D). $(2^{10}-1)=1023$ J). $(2^{10}-1)$	
10. 11100 16+8+4 = 28 27 D) 10000 = 16 E) 1000 = 16+4+2=21 $2^{\frac{1}{2}} 2^{\frac{1}{2}} 2^{\frac{1}{2}}$ E) 1001 = 16+8+4+ = 29 $2^{\frac{1}{2}} 2^{\frac{1}{2}} 2^{\frac{1}{2}}$ B) 1011 16+4+2+ = 23 H) 1111 $2^{\frac{1}{2}} 2^{\frac{1}{2}} 2^{\frac{1}{2}}$ B) 1011 16+4+2+ = 23 H) 1111 $2^{\frac{1}{2}} 2^{\frac{1}{2}} 2^{\frac{1}{2}}$ B) 1011 16+4+2+ = 23 H) 1111 $2^{\frac{1}{2}} 2^{\frac{1}{2}} 2^{\frac{1}{2}}$ B) 101 101 2 1023 J) 2 ^{\text{1}} - 1 = 267 10) 0 0 0 \\ 1 0 0 0 \\ 2 0 1 0 10 10 10 \\ 3 0 1 1 11 10 11 M 100 12 1100	
D) 10000 = 16 $2^{n} z^{2} z^{2}$ E). 10101 = 16+4+2+21 $2^{n} z^{2} z^{2} z^{2}$ F). 11101 = 16+8+4+1 = 29 $2^{n} z^{2} z^{2} z^{2}$ (b). 10111 $16 + 4 + 2 + 1 = 23$ H). 11111 $2^{n} + 2^{n} + 2^{n} + 2^{n} + 2^{n} + 2^{n} = 31$ 8). higherest beared = $(2^{n} - 1)$ a). $(2^{2} - 1) = 3$ D). $(2^{2} - 1) = 7$ E). $(2^{2} - 1) = 63$ H). $(2^{n} - 1) = 511$ C). $(2^{n} - 1) = 15$ F). $(2^{n} - 1) = 127$ T). $(2^{n} - 1) = 1023$ T). $(2^{n} - 1) = 2647$ 10). $0 \rightarrow 7$ Extinct to Birray B > 16 0 000 1 001 2 010 10 1010 3 011 11 1011	
E) $\frac{2^{4} 2^{2}}{1000}$ = $\frac{10 + 4 + 2^{4} - 21}{2000}$ E) $\frac{1000}{1000}$ = $\frac{10 + 4 + 2^{4} - 21}{200}$ E) $\frac{1000}{1000}$ = $\frac{10 + 4 + 2^{4} - 29}{2000}$ H) $\frac{1000}{1000}$ = $\frac{10 + 4 + 2 + 1}{2000}$ = $\frac{1000}{2000}$ B) $\frac{1000}{2000}$ = $\frac{1000}{2000}$ = $\frac{1000}{2000}$ B) $\frac{1000}{2000}$ = $\frac{10000}{2000}$	
E). $10101 = 16 + 4 + 2^{4} = 21$ $2^{3} \cdot 2^{2} \cdot 2^{3}$ E). $11101 = 16 + 8 + 4 + 1 = 29$ $1^{3} \cdot 2^{2} \cdot 2^{3} \cdot 2^{3}$ (b). $10111 = 16 + 4 + 2 + 1 = 23$ H). $11111 = 2^{6} + 2^{4} + 2^{4} + 2^{4} + 2^{4} = 31$ 8). higherst rainal = $(2^{9} \cdot 1)$ a). $(2^{2} \cdot 1) = 3$ D). $(2^{5} \cdot 1) = 31$ (a). $(2^{3} \cdot 1) = 265$ b). $(2^{3} \cdot 1) = 7$ E). $(2^{6} \cdot 1) = 63$ H). $(2^{9} \cdot 1) = 511$ C). $(2^{9} \cdot 1) = 15$ F). $(2^{7} \cdot 1) = 127$ T). $(2^{10} \cdot 1) = 1023$ T). $(2^{10} \cdot 1) = 2647$ 10). $0 \rightarrow 7$ Sectional to Birray 0 000 1 001 2 010 1 001 2 010 1 1011 4 100 12 1100	
F) 1 1 101 = 16 + 8 + 4 + 1 = 29 $2^{1} + 2^{2} + 2^$	
F) . =	
(b) 10111 $16+4+2+1=23$ (c) 10111 $16+4+2+1=23$ (d) 10111 $2^{6}+2^{7}+2^{2}+2^{4}+2^{4}=3$ (e) 10111 1011 1011 1011 1011 1011 1011 1011 1011 1011 1011 1011 1011	
6). 10111 $16+4+2+1=25$ 1). 11111 $2^{6}+2^{1}+2^{2}+2^{2}+2^{4}=31$ 8). higherest dealmal = $(2^{n}-1)$ a). $(2^{2}-1)=3$ D). $(2^{5}-1)=31$ c). $(2^{5}-1)=31$ c). $(2^{5}-1)=31$ c). $(2^{5}-1)=51$ c). $(2^{5}-1)=5$	
8). higherst decimal = $(2^{n}-1)$ a). $(2^{2}-1)=3$ b). $(2^{3}-1)=3$ c). $(2^{3}-1)=3$ c). $(2^{3}-1)=3$ b). $(2^{3}-1)=3$ c). $(2^{3}-$	
8). higherst reducal = $(2^{n}-1)$ a). $(2^{2}-1)=3$ b). $(2^{3}-1)=1$ c). $(2^{6}-1)=3$ d). $(2^{6}-1)=25$ b). $(2^{3}-1)=1$ c). $(2^{6}-1)=15$ p). $(2^{2}-1)=127$ c). $(2^{10}-1)=1023$ c). $(2^{11}-1)=2647$ lo). $0 \rightarrow 7$ sirror bearinal to Binary $0 \rightarrow 7$ $0 $	
10). $(2^{2}-1)=3$ b). $(2^{3}-1)=7$ E). $(2^{6}-1)=63$ H). $(2^{4}-1)=511$ C). $(2^{7}-1)=15$ F). $(2^{7}-1)=127$ T). $(2^{10}-1)=1023$ T). $(2^{11}-1)=2647$ 10). $0 \rightarrow 7$ Sir Decimal to Birry $(3^{2}-1)=127$ (500)	
10). $(2^{2}-1)=3$ b). $(2^{3}-1)=7$ E). $(2^{6}-1)=63$ H). $(2^{4}-1)=511$ C). $(2^{7}-1)=15$ F). $(2^{7}-1)=127$ T). $(2^{10}-1)=1023$ T). $(2^{11}-1)=2647$ 10). $0 \rightarrow 7$ Sir Decimal to Birry $(3^{2}-1)=127$ (500)	4-14
b). $(2^{3}-1)=7$ E). $(2^{6}-1)=(3)$ H). $(2^{4}-1)=511$ C). $(2^{4}-1)=15$ F). $(2^{7}-1)=127$ E). $(2^{10}-1)=1023$ T). $(2^{11}-1)=2647$ 10). $0 \rightarrow 7$ Fibrainal to Birrary $(3^{2}-1)=2647$ 0 000 $(3^{2}-1)=127$ (500) 1 001 (100) 2 010 (100) 3 011 (11) (101) (11) (101)	
C). $(2^{n}-1)=15$ F). $(2^{n}-1)=1023$ T). $(2^{n}-1)=1023$ T)	
10). 0 +7 Six Decimal to Birrary B > 15 0 000 B 1000 1 001 9 1001 2 010 10 1010 3 011 11 1011 4 100 12 1100	
0 000 3 1000 11 1 001 9 1001 2 010 10 1010 3 011 11 1011 4 100 12 1100	
0 000 \$ 1000 1 001 9 1001 2 010 10 1010 3 011 11 1011 4 100 12 1100	
1 00 9 100 100	
2 810 10 1010 3 011 11 1011 4 100 12 1100	
3 0 1 11 10 11	
1 100 12 1100	1 1 2 2
6 110 14 110	
7 111 15 1111	

							4 7 9	
	16	1000	26	11010	3	6 100100	46	10110
	17	10001	27	11011	2	100101	47	1
	18	10010	26	11/00	3	8 100 110	48	110000
	19	11001	29	11101	3	1110011	49	110001
	20	10100	30	11110	4	0 101000	50	110010
	21	10101	31	11111	41	100 001	51	110011
9	22	10110	32	190000	42	101010	52	110100
	23	10111	33	100001	43	110 101	53	10101
	24	11000	34	100010	MN	101106		110110
	25	11001		1100011		101101	55	11011
1 1 1 1 1 1 1 1								
	60	111100	67	100011	74 100	1010		
	1	1111101	68	1000/100	75/ 100	1011		100
	62	111110		100101				
	63	111111	70	1000110				
	64	1000000	71	11100011			134.1	
	65	1000001		1001001				
	66	0,000010	73	100/001			100	
	17 100		-			4		
13).	a) 15	=711	1-1	111 = 15	100			8 1 1 1 1
	2	1 1/2	1		7			
	7	12-3	Q.	144	y 10 y 10 y 10	A PORT OF THE PARTY OF THE PART		
	-	2/-						
	0	7/2		1100		Part Part &		
<u> </u>		12						
	B).	21/2=1	0 1	1010	01=21	1 1 1 1 1 1 1		
	1. 16	10/2= 1	50					2 2 3 6 7
8 8 6 8 8 8		5/2=7	2 1	Fair	Tan W			
		2/2=1	0	A Park				- / 7 - x - 1 M
444		1/2=0				127		
	195							
		The Marie		29.0				
						•		The second

D) 34/2=17 0 100010=34 11100=28 17/2=8 8/2=7 0 0 42=2 7/2=3 2/2=1 3/2=1 1/2=0 1/2 = 0 E) - 40/2=20 101000=40 F). 59/2=29 111011=54 型=10 29/2=14 10/2=5 14/2=7 7/2-3 5/2=2 2/2=1 3/2=1 1/2=0 1/2=0 65/2=32 73/2=36 100001=65 1001001 = 73 32/2=16 0 36/2=16 0 18/2=9 0 4/2=2 V2= 2 0 2/2=1 0 42=0 1/2=0 15). a). 11+01, 11 1101\$13 45/1110 \$14 101 E). 1101 13 11000 129 1000 E8 11000 1000

10).	2's complinent
	00000000
	som of all the weights is Ogiven 0000000
	111111 27 26 25 12 23 2 ² 2 ¹ 2 ⁰
	-27+26+25+24+25+26+27+20
	-128+64+32+16+8+4+2+1=-1
	-1+1=10
200	a)-10011001 -2426+25+24+2+2+2+0=-103
.78).	
A Comment	27 26 52 5 22 2
	2° 26 52° 22' 20 b). 0 1110100 26+26+ 29 4818 + 2° 4-64+32+16+4
	= 1116
7	0.1011111
	-2+2+2+2+2+2+2=-128+32+16+5+4+2+1
1000	==65
24)	a). 01111100001010112=1.11110000101011 XZ14
2700	a). 01111100001010112 = 1.11110000101011 XZ
	Call of table = 100011012
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6)-100110000011000
	001100000110002=1.10000011000X2"
	11+127=138
100	= 10001 010 ₂
4-1	The same of the same and the same of the s
0	