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1. What is the decimal representation of the unsigned binary integer 11111000 ?

2^6 =128	2^ 5 = 64	2^5 = 32	2^4 = 16	2^3 = 8	2^2 = 4	2^1 = 2	2^0 = 1
1	1	1	1	1	0	0	0

128+64+32+16+8 = **248**

2. What is the hexadecimal representation of the binary number 1111 1110 1010 1011 ?

1111	1110	1010	1011
15	14	10	11
F	E	A	B

FEAB is the hexadecimal representation

3. What is the binary representation of the hexadecimal number 2B3D9432 ?

2	B	3	D	9	4	3	2
0010	1011	0011	1101	1001	0100	0011	0010

0010 1011 0011 1101 1001 0100 0011 0010

4. What is the 16-bit hexadecimal numbers of the signed decimal -42?

Division	Quotient	Remainder	
42/16	2	10	**A**
2/16	0	2	**2**

15	15
2	A
D	5

You basically subtract 15 on each number. So 15-2 = 13 (which is D). 15-A = 5

D5+1 = **D6**

5. Convert the 16-bit signed hexadecimal integer 6BF9 to decimal.

6	B	F	9
(6x16^3)	(11x16^2)	(15x16^1)	(9x16^0)
24576	2816	240	9

24576+2816+240+9 = **27641**

6. What is the 8-bit binary (two's complement) representation of signed decimal integer -16?

16 = 10000
8-bit = 00010000
Two's complement = 11101111

1	1	1	0	1	1	1	1
						+	1
1	1	1	1	0	0	0	0

11110000 is the 8-bit binary representation.

7. What is the sum of the hexadecimal integers B79 + 6CD?

1	1	1
B	7	9
6	C	D(13)
12	4	6

1246

Some notes..
ADD B7 + 6C and 9 + D.
9+D is basically 9+13 = 22. You have to subtract 16 from 22 and the remainder is 6. You bring down the 6 and carry a one on the next number because the number is greater than 16.
7+C is essentially 8+12. The reason why its 8 is because you had to carry the 1 from the previous number, and C is 12 in decimal. 8+12=20. Subtract 16 and you get 4, also carry a one on the next.

8. What are the hexadecimal and decimal representations of the ASCII characters * and # ?

Character	Hexadecimal	Decimal
*	**2A**	**42**
#	**23**	**35**

9. If a Boolean function has five inputs, how many rows are required for its truth table?

Basically its 2^n where n is the number of inputs.

2^5 = **32 rows**