Binary to decimal:

$1110010_2 = \underline{114}_{10}$

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

$1 \times 64 = 64$
$1 \times 32 = 32$
$1 \times 16 = 16$
~~$0 \times 8 = 0$~~
~~$0 \times 4 = 0$~~ no need to include
$1 \times 2 = 2$
~~$0 \times 1 = 0$~~
114

Convert decimal to binary:

$114_{10} = \_\_\_\_\_{}_2$

1	1	1	0	0	1	0
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
128	64	32	16	8	4	2	1

↑ bigger than 114 so can't use

114
-64
50
-32
18
-16
2 can't subtract 8 or 4
-2
0 so done - do not need 2^0 or 1

Binary to decimal:

$1000011_2 = \underline{67}_{10}$

1	0	0	0	0	1	1	$= 67_{10}$
					2^1	2^0	
2^6					2	1	
64							

Convert decimal to binary:

$67_{10} = \_\_\_\_\_ _2$

1	0	0	0	0	1	1
64	32	16	8	4	2	1

67
−64
3
−2
1
−1
0

Convert hexadecimal to decimal:

$ABC_{16} = \underline{2748}_{10}$

not decimal
A = 10
B = 11
C = 12

A	B	C
16^2	16^1	16^0
256	16	1

$A \times 16^2 = 10 \times 256 = 2560$
$B \times 16^1 = 11 \times 16 = 176$
$C \times 16^0 = 12 \times 1 = 12$
2748_{10}

Convert decimal to hexadecimal:

$2748_{10} = \_\_\_\__{16}$

16^2	16^1	16^0
256	16	1

How many 256s can be subtracted from 2748 - looks like 10

dec hex
10 = A
11 = B
12 = C

```
      10
256 | 2748
      256
      188
```

```
      11
16 | 188
     16
     28
     16
     12
```

10 or 11 or 12

A	B	C
16^2	16^1	16^0
256	16	1

12 is C