$(4233)_{10}$

0 1 2 3 4 5 6 7 8 9

1000's 100's 10's 1's

4_{10^3} 2_{10^2} 3_{10^1} 3_{10^0}

$4 \times 10^3 = 4000$

$+ \; 2 \times 10^2 = 200$

$+ \; 3 \times 10^1 = 30$

$+ \; 3 \times 10^0 = 3$

4233

BASE 10

$0+1=1$

$1+1=2$

$2+1=3$

$3+1=4$

$4+1=5$

$\vdots$

$8+1=9$

$9+1=10$

$$\begin{array}{r} {\scriptstyle 1} \\ 9 \\ +\,1 \\ \hline 10 \end{array}$$

$0+1=1$

$1+1=2$

$2+1=3$

$3+1=4$

$4+1=10$

$$\begin{array}{r} {\scriptstyle 1}\,4 \\ +\;\;1 \\ \hline 10 \end{array}$$

0
1
2
3
4

$(4233)_5$

$$\begin{array}{cccc} 4 & 2 & 3 & 3 \\ (5^3 & 5^2 & 5^1 & 5^0)_{10} \\ (125 & 25 & 5 & 1)_{10} \end{array}$$

$4 \times 5^3 = 4 \times 125 = 500$

$2 \times 5^2 = 2 \times 25 = 50$

$3 \times 5^1 = 3 \times 5 = 15$

$3 \times 5^0 = 3 \times 1 = 3$

$(568)_{10}$

$(3421)_5$

$5^3 \quad 5^2 \quad 5^1 \quad 5^0$

$3 \times 5^3 = 3 \times 125 = 375$

$+ 4 \times 5^2 = 4 \times 25 = 100$

$+ 2 \times 5^1 = 2 \times 5 = 10$

$+ 1 \times 5^0 = 1 \times 1 = 1$

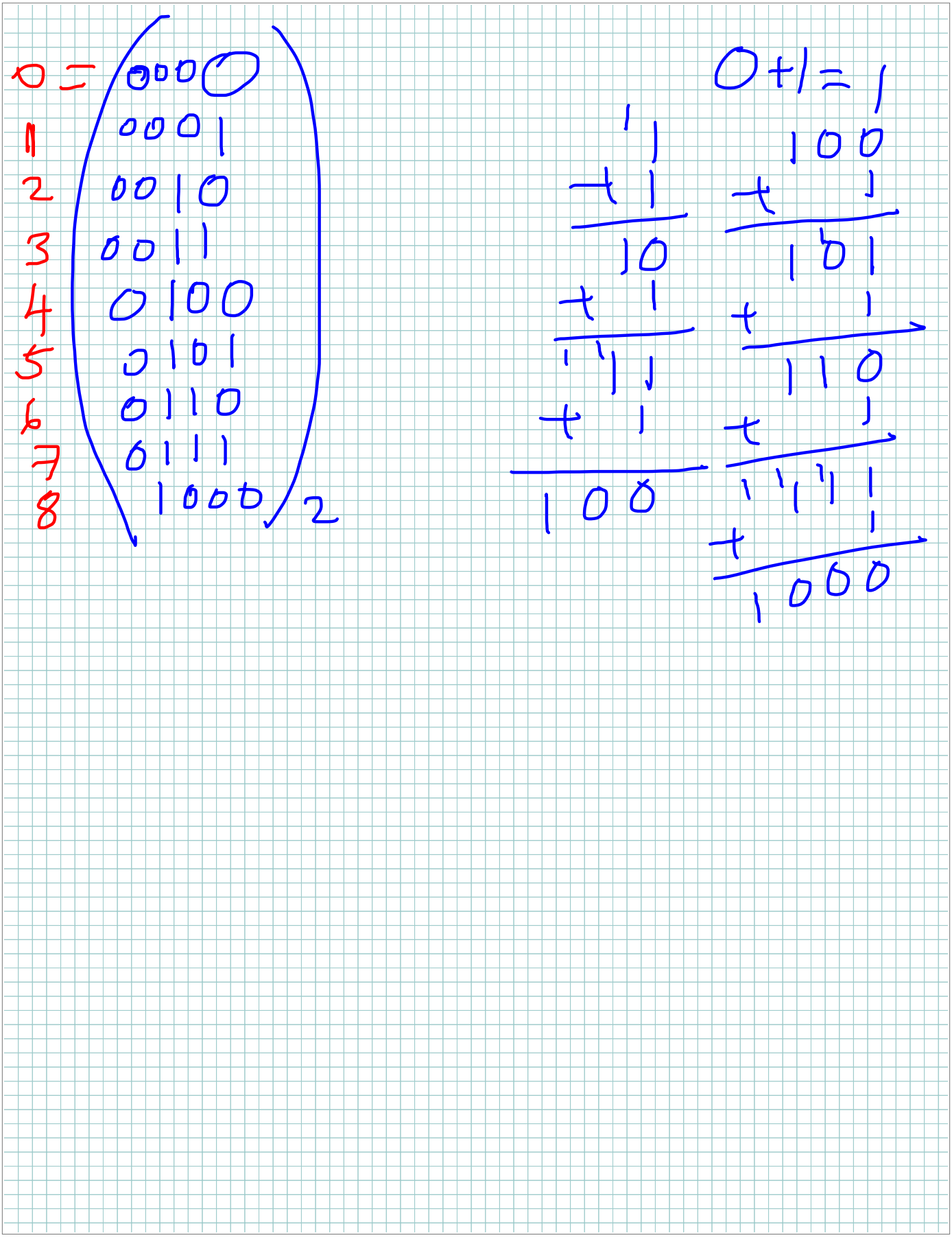
$(486)_{10}$

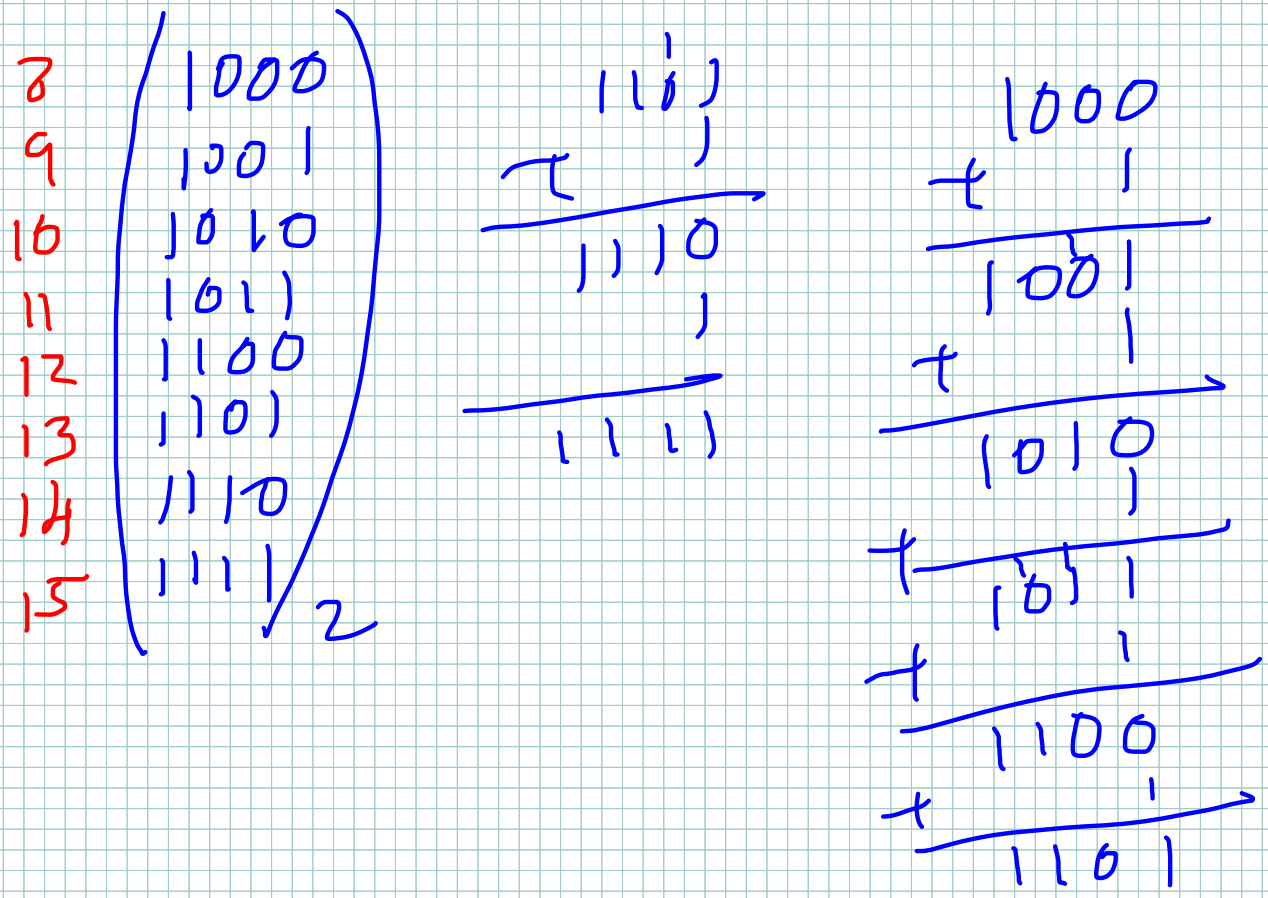
BINARY

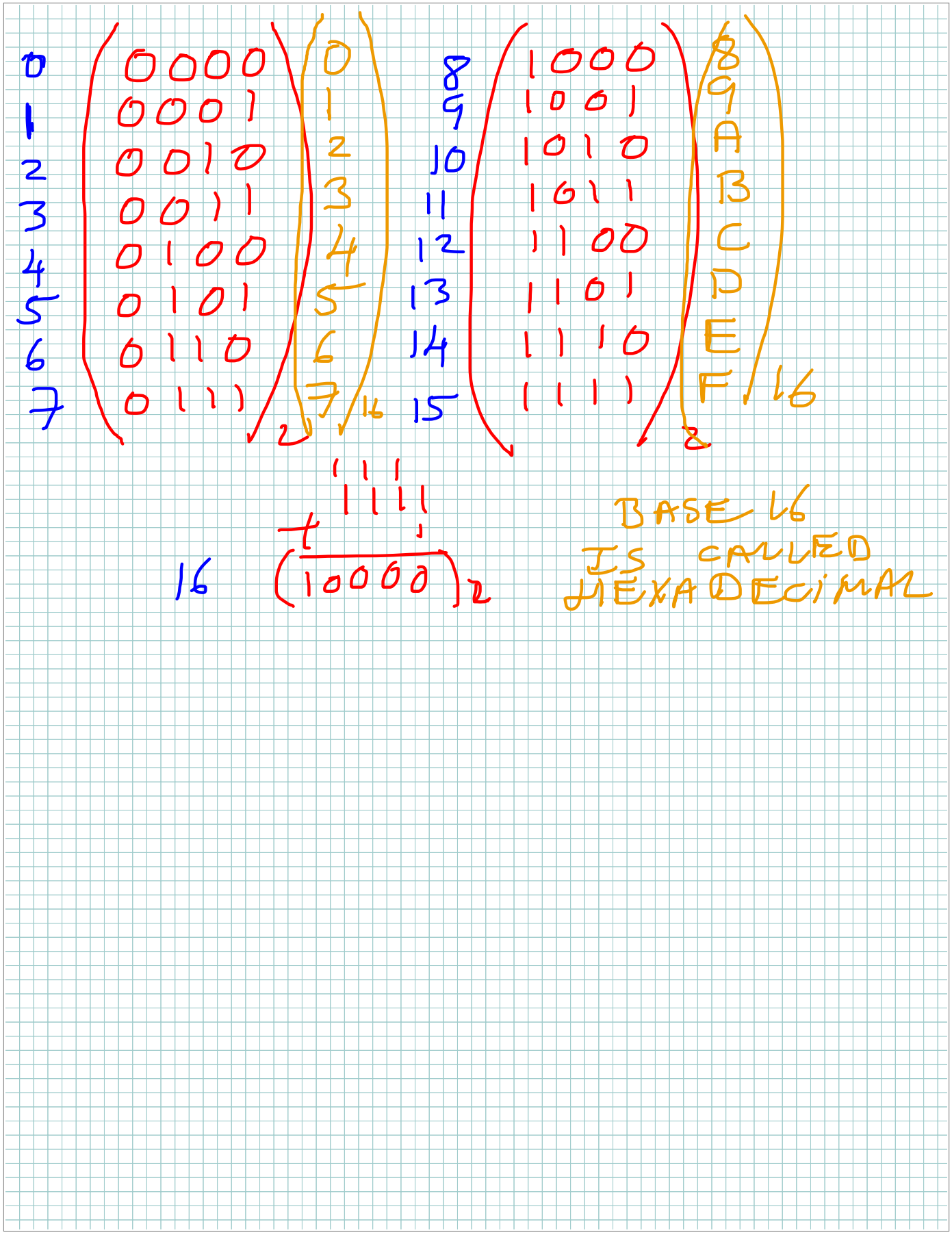
$$(0+0=0,\ 0+1=1,\ 1+0=1,\ 1+1=10)_2$$

$$\begin{array}{r} {\scriptstyle 1\ \ 1} \\ 1\ 1 \\ +\ 1\ 1 \\ \hline 1\ 0 \end{array}$$

$$\begin{array}{r} 0 \\ 1 \end{array}$$


0 = 0000
1 0001
2 0010
3 0011
4 0100
5 0101
6 0110
7 0111
8 1000
2
0+1=1
1
+1
10
1
+1
11
1
+1
100
100
+1
101
1
+1
110
1
+1
111
1
+1
1000


8 1000
9 1001
10 1010
11 1011
12 1100
13 1101
14 1110
15 1111
2
1111
1110
1000
1001
1010
1011
1100
1101


0 0000 0
1 0001 1
2 0010 2
3 0011 3
4 0100 4
5 0101 5
6 0110 6
7 0111 7
2
16
8 1000 8
9 1001 9
10 1010 A
11 1011 B
12 1100 C
13 1101 D
14 1110 E
15 1111 F
16
2
1 1 1
1 1 1 1
+ 1
10000
16
(10000)2
BASE 16
IS CALLED
HEXADECIMAL

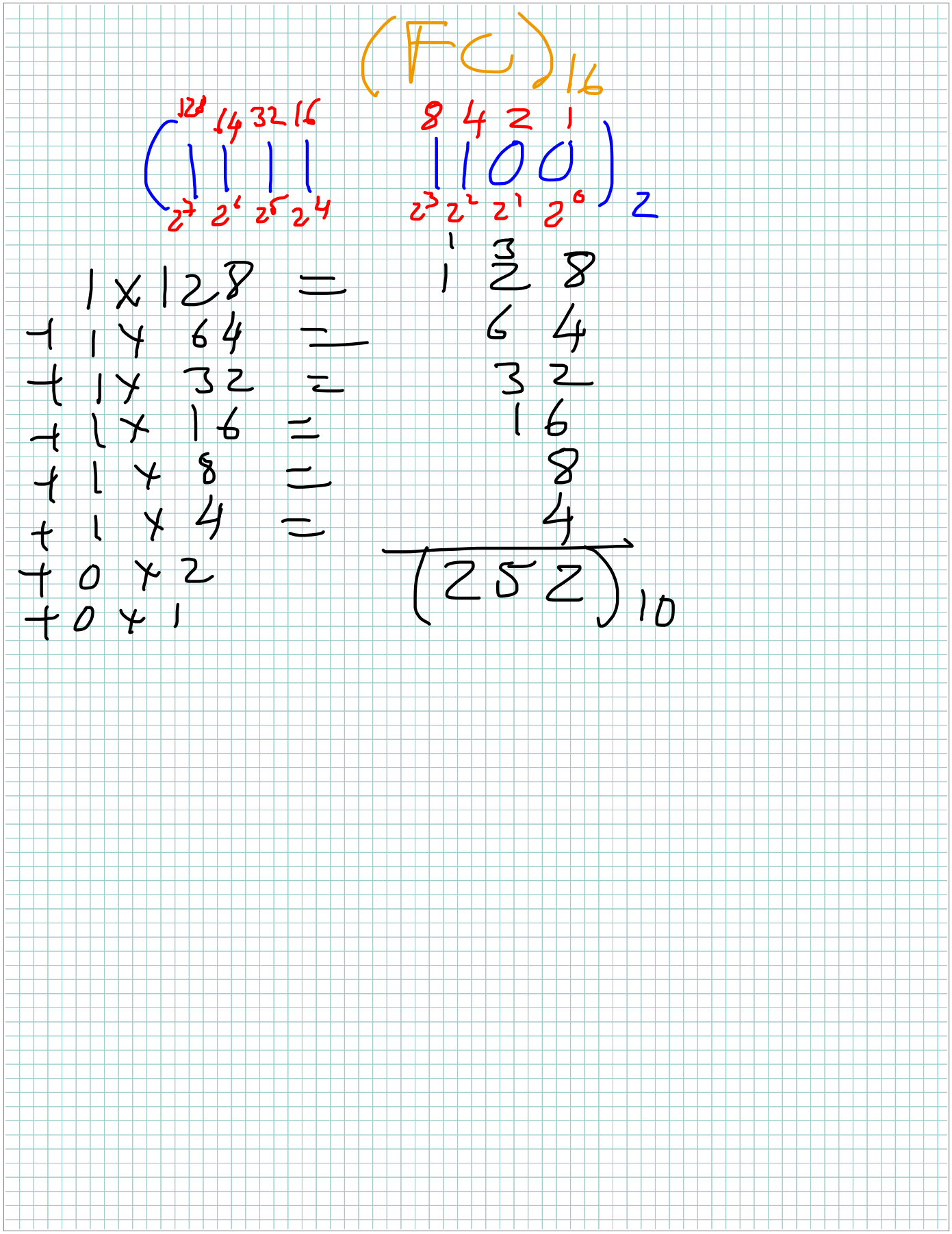
$(FC)_{16}$

$16^1 \quad 16^0$

$F \times 16^1 = 15 \times 16^1 = 240$

$C \times 16^0 = 12 \times 1 = 12$

$(252)_{10}$


(FC)16
128 64 32 16
1 1 1 1
2^7 2^6 2^5 2^4
8 4 2 1
1 1 0 0
2^3 2^2 2^1 2^0
2
1 X 128 =
1 X 64 =
1 X 32 =
1 X 16 =
1 X 8 =
1 X 4 =
0 X 2
0 X 1
1
1 2 8
6 4
3 2
1 6
8
4
(252)10

$(860)_{10}$

2^9	2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
512	256	128	64	32	16	8	4	2	1
1	1	0	1	0	1	1	1	0	0

$$860 - 512 = 348$$

$$348 - 256 = 92 \qquad 92 - 64 = 28 \qquad 28 - 16 = 12 \qquad 12 - 8 = 4 \qquad 4 - 4 = 0$$

$$(0011\ 0101\ 1100)_2$$

$$(3\ \ 5\ \ C)_{16}$$

$(3\ 5\ C)_{16}$

$16^2\ \ 16^1\ \ 16^0$

$3 \times 16^2 = 3 \times 256 = 768$

$5 \times 16^1 = 5 \times 16 = 80$

$C \times 16^0 = 12 \times 1 = 12$

$768 + 80 + 12$

$(860)_{10}$