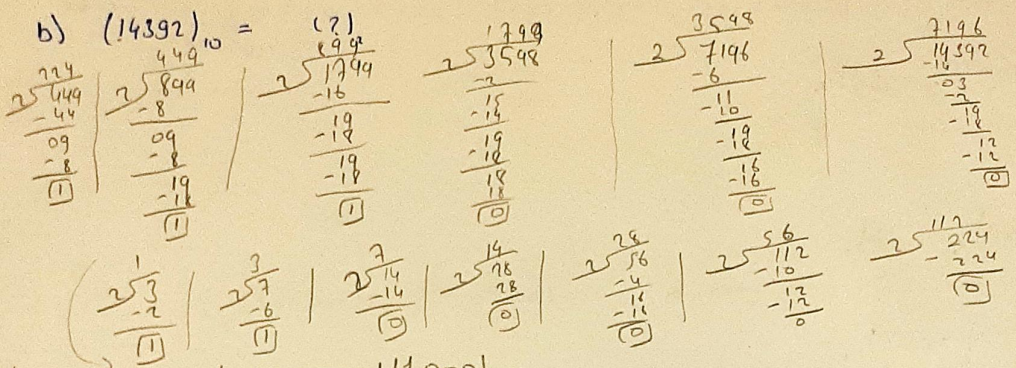
SORU 1

a) $(10110110)_2 = \underbrace{010}\ \underbrace{110}\ \underbrace{110} = (266)_8$

- $0\times2^0 + 1\times2^1 + 1\times2^2 + 0\times2^3 + 1\times2^4 + 1\times2^5 + 0\times2^6 + 1\times2^7 = 0+2+4+0+16+32+0+128 =$
$(182)_{10}$

- $\underbrace{1011}_{B}\ \underbrace{0110}_{6} = (B6)_{16}$

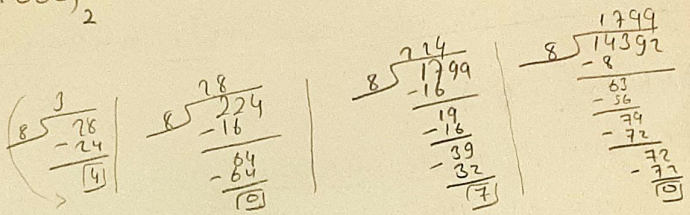
b) $(14392)_{10} = (?)_2$



$(14392)_{10} = (11100000111000)_2$

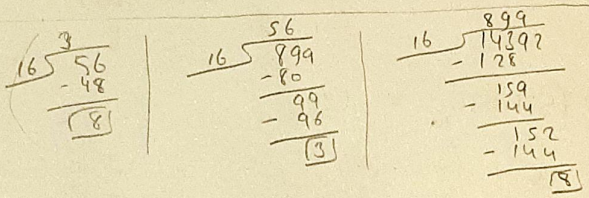
$(?)_8$

$(14392)_{10} = (34070)_8$



$(?)_{16}$

$(14392)_{10} = (3838)_{16}$



c) $(10CE)_{16} = (?)_2$

$(10CE)_{16} = (0001\ 0000\ 1100\ 1110)_2$

$(10CE)_{16} = (?)_8$

Hex to Binary $(0001\ 0000\ 1100\ 1110)$

Binary to octal $(001\ 000\ 011\ 001\ 110)$

$(10CE)_{16} = (010316)_8$

$(10CE)_{16}$ - $(?)_{10}$

$E \times 16^0 + C \times 16^1 + 0 \times 16^2 + 1 \times 16^3 = 14 + 12 \times 16 + 0 + 4096 = 4302$

SORU 2

a) $(1010,011)_2 = (?)_8$

001 010 . 011 $= (12,3)_8$

$(1010,011)_2 = (?)_{10}$

$0 \times 2^0 + 1 \times 2^1 + 0 \times 2^2 + 1 \times 2^3 + 0 \times 2^{-1} + 1 \times 2^{-2} + 1 \times 2^{-3} = 0 + 2 + 0 + 8 + 0 + 1/4 + 1/8 =$

$(10,375)_{10}$

$(1010,011)_2 = (?)_{16}$

1010, 0110 $= (A,6)_{16}$

A 6

b) $(156,341)_8 = (?)_2$

her basamak 3 bit temsil eder → $(001101110, 011100001)_2$

$(156,341)_8 = (?)_{10}$

$6 \times 8^0 + 5 \times 8^1 + 1 \times 8^2 + 3 \times 8^{-1} + 4 \times 8^{-2} + 1 \times 8^{-3} = 6 + 40 + 64 + 3 \times 1/8 + 4 \times 1/64 + 1 \times 1/5$

$(110,439)_{10}$

$(156,341)_8 = (?)_{16}$

$(156,341)_8 = (001101110, 011100001)_2$

0000 0110 1110, 0111 0000 1000 $(06E,708)_{16}$

0 6 E, 7 0 8

c) $(531,031)_{10} = (?)_2$

$(1000010011,010)_2$

$(531,031)_{10} = (?)_8$

$(1023,710)_8$

$(531,031)_{10} = (?)_{16}$

213, 1490

0,1986 × 16	0,4496 × 16	0,1031 × 16	33 ÷ 16	531 ÷ 16
5416	4976	0186	2	33
936	496	031	-32	-48
14,776	0,9936	0,496	1	3

d) $(21,11)_{16} = (?)_2$

her dijit için 4 bitlik → $(21,11)_{16} = (0010\ 0001,\ 0001\ 0001)_2$

$(21,11)_{16} = (?)_8$

$(21,11)_{16} = (0010\ 0001,\ 0001\ 0001)_2$

$(000\ 100\ 001,\ 000\ 100\ 010)$ → $(041,042)_8$

$(21,11)_{16} = (?)_{10}$

$0 \times 16^0 + 2 \times 16^1 + 1 \times 16^{-1} + 1 \times 16^{-2} = 33,0625$

i) SORU 3

$(1011)_2 + (1110) =$

1011
+ 1110
11001

iii) $(1011)_2 - (1110)_2 = ?$

1011
- 1110
10001

v) $(3344)_8 + (2674)_8 =$

3344
+ 2674
6240

vii) $(7451)_8 \times (6006)_8 =$

7451
× 6006
55366
6000
000
55366

55443366

x) $(1562)_{10} \times (4652)$

1562
× 4652
3124
7810
9372
6248
7266424

vi) $(7358)_{10} - (5689)_{10}$

7358
- 5689
1669

ix) $(7999)_{10} + (8862)_{10} =$

7999
+ 8862
16861

xi) $(7563)_{10} / (32)_{10} =$

7563 ÷ 32
236
-64
116
96
203
-192
11

ii) $(11,01)_2 + (10,10)_2 =$

11,01
10,10
101,11

$(77,55)_8 + (33,42)_8 =$

77,55
33,42
133,17

SORU 4

a) $(52520)_{10}$ sayısının taban-1 ve taban tümleyenlerini bulunuz

$(10^5 - 1) - 52520 = 99999 - 52520 = 47479$

$(10^5 - 52520) = 47480$

b) $(15A2C)_{16}$ sayısının taban-1 ve taban tümleyenlerini bulunuz