P3.4 +3,(3) AC – 630+ – 2.06.2005

3	2	1
1		1

$3|_{10} = 11|_2$

1.1,0101010101010101010101010

Normalizat

$\Rightarrow 1,1010101010101010101010 \cdot 2^1$

S → 0

E = 127+1 = 128 = 10000000

M = 10101010101010101010101

0,33333333 · 2 0

0,66666666 · 2 1

1,33333332 · 2 0

0,66666664 · 2 1

1,33333328 · 2 0

0,66666656 · 2 1

1,33333312 · 2 0

0,66666624 · 2 1

1,33333248 · 2 0

0,66666496 · 2 1

1,33332992 · 2 0

0,66665984 · 2 1

1,33331968 · 2 0

0,66663936 · 2 1

1,33327872 · 2 0

0,66655744 · 2 1

1,33311488 · 2 0

0,66622976 · 2 1

1,33245952 · 2 0

0,66491904 · 2 1

1,32983808 · 2 0

0,65967616 · 2 1

1,31935232 · 2 0

0,63870464 · 2 1

1,27740928

$-21,(3)$

$21_{10} = 10101$

21	2	1
10	2	0
5	2	1
2	2	0
1		1

diopar

$21,(3) \rightarrow 10101,0101\,0101\,0101\,0101\,0101\,0101\,010$

Normalizat $\rightarrow 1,0101\,0101\,0101\,0101\,0101\,0101\,010 \cdot 2^4$

$0,33333333 \rightarrow 0,0101\,0101\,0101\,0101\,0101\,0101\,010$

$S=1$

$E = 127+4 = 131 = 10000011$

$M = 0101\,0101\,0101\,0101\,0101\,010$

Scădem exponenții:

$$\begin{array}{r} 1000\,011 \; - \\ 1000\,000 \\ \hline 0000\,011 \end{array} \longrightarrow 3$$

– deplasăm primul nr. cu 3 biți la dreapta

$$\begin{array}{r} 1,0101\,0101\,0101\,0101\,0101\,010 \; - \\ 0,00110101\,0101\,0101\,0101\,010 \\ \hline 1,001000000000000000000000 \end{array}$$

Rezultatul este deja normalizat:

$S=1$

$E=10000011$

$M = 0010\,0000\,0000\,0000\,0000\,000$

$-1,001 \cdot 2^4 = -1,125 \cdot 16 = -18$ ✓

$-21,(3) + 3,(3) = 18 \rightarrow$ nu apare eroare de trunchere.

ARHITECTURA CALCULATOARELOR

EXAMEN 2.06.2018

6307

REZOLVARE PB. PT. 5

120	2	0
60	2	0
30	2	0
15	2	1
7	2	1
3	2	1
1		1

$120|_{10} = 1111000$

247	2	1
123	2	1
61	2	1
30	2	0
15	2	1
7	2	1
3	2	1
1		1

$247|_{10} = 11110111$

Adunare

```
  1111
  11110111 +
  11111000
 -------------
 1,0110,1111
```

$\rightarrow 15 + 16 \cdot 6 + 1 \cdot 256 = 367$ ✓

```
  256
   96
   15
 -----
  367
```

Inmultire

```
        11110111 ·
        11111000
      ----------------
        00000000
       00000000
      00000000
     11110111
    11110111
   11110111
  11110111
 ------------------------
 1 1 1 0 0 1 1 1 1 0 0 0 1 0 0 0
```

$\rightarrow 8 + \underbrace{12 \cdot 16}_{192} + \underbrace{3 \cdot 256}_{768} + 7 \cdot 4096 = 29640$

10 11 11 10 10 10 10 10 1