

4)

a)  $-23,125$

$$\begin{array}{r}
 23 \overline{) 2} \\
 \underline{22} \phantom{0} \\
 1 \phantom{0} \overline{) 11} \\
 \underline{10} \phantom{0} \\
 1 \phantom{0} \overline{) 5} \\
 \underline{4} \phantom{0} \\
 1 \phantom{0} \overline{) 2} \\
 \underline{2} \phantom{0} \\
 0 \phantom{0} \overline{) 2} \\
 \underline{2} \phantom{0} \\
 0 \phantom{0} \overline{) 1} \\
 \underline{1} \phantom{0} \\
 0 \phantom{0} \overline{) 0} \\
 \underline{0} \phantom{0} \\
 0
 \end{array}$$

$-23 = -110110111$

$0,125 \times 2 = 0,25$

$0,25 \times 2 = 0,5$

$0,5 \times 2 = 1$

$0,125 = 0,001_2$

$-23,125 = -10111,001_2 =$

$= -1,0111001_2 \times 2^4$  (Exponent  $= 4$ )

b)  $M = 011100100000... (23 \text{ bit})$

c)  $e = E + q \Rightarrow 4 + 127 = 131 = 128 + 2 + 1$

$e = 10000011$

$V = 1$

1	1	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	0	0	...
e								M											