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3)a) $1100{,}011_{10}$

1100 | 2
0 550 | 2
0 275 | 2
1 137 | 2
1 68 | 2
0 34 | 2
0 17 | 2
1 8 | 2
0 4 | 2
0 2 | 2
0 1

$1000100011\,00_2$

0,011 x2 = 0,022 → 0
0,022 x2 = 0,044 → 0
0,044 x2 = 0,088 → 0
0,088 x2 = 0,176 → 0
0,176 x2 = 0,352 → 0
0,352 x2 = 0,704 → 0
0,704 x2 = 1,408 → 1
0,408 x2 = 0,816 → 0
0,816 x2 = 1,632 → 1
0,632 x2 = 1,264 → 1
⋮

$1000100011\,00.000000\,1011\ldots_2$

$1\,0\,1\,0\,3\,0.0\,0\,0\,2\,3\ldots_4$

---

3)b) $8F8{,}0566F7.320187_{9}$

22 21 22 00 12 20 20 21 21 . 10 02 00 01 22 21

---

3)c) $647\,504_8$ | 5

13141 | 5
11
44
11
45
2

2171 | 5
27
31
07
2

345 | 5
35
41
3

556 | 5
05
06
1

111 | 5
01
16 | 5
1
4
2

$2431322\,3_5$

---

3)d)

A	B	A	D	E	C	C	F	F
1010	1011	1010	1101	1110	1100	1100	1111	1111

$22\,23\,22\,31\,32 \cdot 30\,30\,33\,33_4$

$25\,33\,25\,33\,36 \cdot 63\,14\,77\,48_{16}$

---

3)e)

1	011	111	000	110	101	011	011	110	110
1	3	7	0	6	5	3	3	5	4
	B	E		3	5	6		E	C

$_8$ $_{16}$

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4) d)

$$
\begin{array}{r}
1\,1\,0\,1\,1\,1\,1\,1\,1\,1\,1\,0\,0\,1\,.\,1\,0\,1\,1 \\
+\;1\,1\,1\,0\,.\,1\,0\,1\,0\,1\,0\,1\,0\,1\,1\,1 \\
\hline
1\,0\,1\,1\,1\,0\,1\,0\,1\,1\,0\,1\,1\,1\,0\,0\,.\,0\,0\,1\,0\,1
\end{array}
$$

4) e)

$$
\begin{array}{r}
1\,0\,0\,1\,0\,0\,0\,1\,1\,0\,1\,0\,.\,1\,0\,0\,1\,0 \\
-\;1\,1\,1\,1\,0\,1\,1\,1\,1\,1\,0\,1\,1\,1\,1\,.\,1\,0\,1\,1\,1 \\
\hline
0\,0\,0\,1\,0\,0\,1\,1\,0\,1\,0\,1\,0\,.\,1\,1\,0\,1\,1
\end{array}
$$

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5)

a) $X = (7C)_{16} = 10000100_2 \rightarrow +7C_{16} = 01111100_2$

$Y = -(1F)_{16} = 11100001_2 \rightarrow +1F_{16} = 00011111_2$

$X + Y = 10000100 + 11100001 = 101100101$ gera overflow

b) $X - Y = 10000100 - (-(1F)_{16}) = +(1F)_{16}$

$10000100 + 00011111 = 10100011_2 = -(5D)_{16} = -93_{10}$

c) $Y - X = 11100001 - (-(7C)_{16}) = +(7C)_{16}$

$11100001 + 01111100 = 101011101_2 = +5D_{16} = +93_{10}$

d) X div Y

Pegando os números positivos

$01111100 \;|\; 11111$

$-11111 \quad\quad 100 \rightarrow +4_{16} = +4_{10}$

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