

$$\textcircled{1} M(6, 10, 10)$$

$$a) E_0 = [1000000 | -10]$$

$$= \left(1 \cdot \frac{1}{2}\right) \cdot 2^{-10} = 2^{-11} = \frac{1}{2048}$$

$$\left[ \begin{array}{cccccc|c} 1 & 0 & 1 & 0 & 0 & 1 & 5 \\ \downarrow & & \downarrow & & & & \\ \frac{1}{2^1} & & \frac{1}{2^2} & & & & \\ & & & & & \downarrow & \\ & & & & & \frac{1}{2^6} & \end{array} \right]$$

$$M_\infty = [111111 | 10]$$

$$= \left( \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} \right) \cdot 2^{10} =$$

$$= \frac{32+16+8+4+2+1}{64} \cdot 2^{10} = \frac{63}{64} \cdot 2^{10} = 63 \cdot 2^4 = 1008$$

$$\begin{array}{r} 63 \cdot 16 \\ 378 \\ 63 \\ \hline 1008 \end{array}$$

$$M(6, -10, 10)$$

$$1 = \left[ \underset{\downarrow}{1} 00000 \mid 1 \right]$$

$$E_1 = \left[ 100001 \mid 1 \right] -$$

$$- \left[ 100000 \mid 1 \right]$$

$$\hookrightarrow \frac{1}{2} \cdot 2^1 = 1$$

$$= \left[ \left( \frac{1}{2} + \frac{1}{64} \right) \cdot 2^1 \right] - 1 = -1 + \frac{33}{64} \cdot 2 = \frac{33}{32} - 1 = \frac{1}{32}$$

$$|M| = 2 \cdot 2^{6-1} (10 - (-10) + 1) + 1$$

$$= 64 \cdot 21 + 1 = 1344 + 1 = 1345$$

$$M(6, -10, 10)$$

$$\frac{1}{3}$$

$$b) fl(137) = [100010 | 8] =$$

$$= \left( \frac{1}{2} + \frac{1}{32} \right) \cdot 2^8 = \frac{17}{2^5} \cdot 2^8 = 17 \cdot 8 = 136$$

$$[100011 | 8] = \left( \frac{1}{2} + \frac{1}{32} + \frac{1}{64} \right) \cdot 2^8 = 140$$

$$\pi = 3.14$$

$$\begin{array}{r} 12 \overline{) 1245} \\ 1200 \end{array}$$

137	
68	1
34	0
17	0
8	1
4	0
2	0
1	0
0	1

$$137_{10} = 10001001_2$$

$$\sqrt{10001001}$$

$$10001110$$

$$700100$$

