

16 記数法 (P 78 ~ P 83)

◇確認問題 (P 78 ~ P 81)

1 (1) 23 (2) 50 (3) 586

2 (1) 1100100₍₂₎ (2) 202₍₇₎

(3) 3131₍₅₎ (4) 21021202₍₃₎

3 (1) ① 7.75 ② 23.52

(2) ① $5 + \frac{1}{9}$ ② $26 + \frac{43}{49}$

4 (1)
$$\begin{array}{r} 11010 \\ + 1001 \\ \hline 100011 \end{array}$$
 (2)
$$\begin{array}{r} 11010 \\ - 1001 \\ \hline 10001 \end{array}$$

(3)
$$\begin{array}{r} 1011 \\ \times 110 \\ \hline 1011 \\ 1011 \\ \hline 1000010 \end{array}$$
 (4)
$$\begin{array}{r} 111 \\ 101 \overline{) 100011} \\ \underline{101} \\ 111 \\ \underline{101} \\ 101 \\ \underline{0} \end{array}$$

5 (1) 0.5 循環節 5 (2) 0.4259 循環節 259

(3) 0.967032 循環節 967032

6 (1) 2710₍₁₆₎ (2) 255

(3) A4₍₁₆₎ (4) 1111011₍₂₎

◇練習問題A (P 82)

1 (1) 45 (2) 76 (3) 676

2 (1) 10000000000₍₂₎ (2) 4111₍₅₎

(3) 2120111₍₉₎ (4) 6561₍₇₎

3 (1) 5.375 (2) 16.96

4 (1) $1 + \frac{14}{27}$ (2) $23 + \frac{5}{18}$

5 (1)
$$\begin{array}{r} 11101 \\ + 1011 \\ \hline 101000 \end{array}$$
 (2)
$$\begin{array}{r} 11101 \\ - 1011 \\ \hline 10010 \end{array}$$

(3)
$$\begin{array}{r} 11011 \\ \times 101 \\ \hline 11011 \\ 11011 \\ \hline 10000111 \end{array}$$
 (4)
$$\begin{array}{r} 11 \\ 1011 \overline{) 100001} \\ \underline{1011} \\ 1011 \\ \underline{1011} \\ 0 \end{array}$$

6 (1) 0.2916 循環節 6

(2) 0.621951 循環節 21951

(3) 0.390313 循環節 390313

7 (1) BD7₍₁₆₎ (2) 298

(3) 65₍₁₆₎ (4) 10001001₍₂₎

◇練習問題B (P 83)

1 3進法

+	0	1	2
0	0	1	2
1	1	2	10
2	2	10	11

×	0	1	2
0	0	0	0
1	0	1	2
2	0	2	11

6進法

+	0	1	2	3	4	5
0	0	1	2	3	4	5
1	1	2	3	4	5	10
2	2	3	4	5	10	11
3	3	4	5	10	11	12
4	4	5	10	11	12	13
5	5	10	11	12	13	14

×	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	1	2	3	4	5
2	0	2	4	10	12	14
3	0	3	10	13	20	23
4	0	4	12	20	24	32
5	0	5	14	23	32	41

7進法

+	0	1	2	3	4	5	6
0	0	1	2	3	4	5	6
1	1	2	3	4	5	6	10
2	2	3	4	5	6	10	11
3	3	4	5	6	10	11	12
4	4	5	6	10	11	12	13
5	5	6	10	11	12	13	14
6	6	10	11	12	13	14	15

×	0	1	2	3	4	5	6
0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6
2	0	2	4	6	11	13	15
3	0	3	6	12	15	21	24
4	0	4	11	15	22	26	33
5	0	5	13	21	26	34	42
6	0	6	15	24	33	42	51

2 (1)
$$\begin{array}{r} 431 \\ + 143 \\ \hline 1124 \end{array}$$

(2)
$$\begin{array}{r} 1132 \\ - 344 \\ \hline 233 \end{array}$$

(3)
$$\begin{array}{r} 342 \\ \times 14 \\ \hline 3023 \\ 342 \\ \hline 11443 \end{array}$$

(4)
$$\begin{array}{r} 12 \\ 23 \overline{) 331} \\ \underline{23} \\ 101 \\ \underline{101} \\ 0 \end{array}$$

3 (1) 434₍₅₎

(2) 201021₍₃₎

【解説】

まず十進法に直せば、(1) 119、(2) 520

4 (1) 0

(2) 2

【解説】

(1) $\frac{7}{44} = 0.1590\bar{}$ 、小数第3位よりあとは奇数位数が9、偶数位数が0

(2) $\frac{101}{143} = 0.706293\bar{}$ 、小数第96位 (96 = 6 × 16) が3で、それ以降順に 7, 0, 6, 2, ...

5 (1) 0.01₍₂₎

(2) 0.0121₍₃₎

【解説】

(1)
$$\begin{array}{r} 0.0101\cdots \\ 11 \overline{) 1.00} \\ \underline{11} \\ 100 \\ \underline{11} \\ 1 \end{array}$$

(2)
$$\begin{array}{r} 0.012101\cdots \\ 12 \overline{) 1.00} \\ \underline{12} \\ 110 \\ \underline{101} \\ 20 \\ \underline{12} \\ 100 \\ \underline{12} \end{array}$$