

Ficha 2

1.1. $14_{10} = E_{16}$

C.A.

$$\begin{array}{r} 14 \\ 16 \\ \hline 14 \\ 0 \end{array}$$

 $E \leftarrow$

1.3. $42_8 = 22_{16}$

C.A.

$$\begin{array}{r} 4_8 = 100_2 \\ 2_8 = 010_2 \\ \hline 100010_2 = 22_{16} \end{array}$$

1.5. $1101_2 = D_{16}$

C.A.

$$\begin{array}{r} 1101_2 = 13_{10} = D_{16} \\ \hline 1101_2 \end{array}$$

1.7. $23_4 = B_{16}$

C.A.

$$\begin{array}{r} 2_4 = 10_2 \\ 3_4 = 11_2 \\ \hline 1011_2 = 11_{10} = B_{16} \end{array}$$

2.1. $36_8 = 11110_2$

C.A.

$$\begin{array}{r} 3_8 = 011_2 \\ 6_8 = 110_2 \\ \hline 11110_2 \end{array} \quad 2^3 = 8$$

1.2. $213_{10} = D5_{16}$

C.A.

$$\begin{array}{r} 213 \\ 16 \\ \hline 13 \\ 5 \\ \hline 13 \\ 0 \end{array}$$

1.4. $67_8 = 37_{16}$

C.A.

$$\begin{array}{r} 6_8 = 110_2 \\ 7_8 = 111_2 \\ \hline 110111_2 = 37_{16} \end{array}$$

1.6. $110010_2 = 32_{16}$

C.A.

$$\begin{array}{r} 110010_2 = 32_{16} \\ \hline 110010_2 \end{array}$$

1.8. $231_4 = 2D_{16}$

C.A.

$$\begin{array}{r} 2_4 = 10_2 \\ 3_4 = 11_2 \\ 1_4 = 01_2 \\ \hline 101101_2 = 2D_{16} \end{array}$$

2.2. $31_8 = 11001_2$

C.A.

$$\begin{array}{r} 3_8 = 011_2 \\ 1_8 = 001_2 \\ \hline 11001_2 \end{array}$$

2.3. $47_{16} = 1000111_2$

C. A.
 $4_{16} = \underline{0} \underline{1} \underline{0} \underline{0}_2$
 $7_{16} = \underline{0} \underline{1} \underline{1} \underline{1}_2$
2⁴ = 16

2.4. $13_{16} = 100111_2$

C. A.
 $1_{16} = \underline{0} \underline{0} \underline{0} \underline{1}_2$
 $3_{16} = \underline{0} \underline{0} \underline{1} \underline{1}_2$

2.5. $32_4 = 1110_2$

C. A.
 $3_4 = \underline{1} \underline{1}_2$
 $2_4 = \underline{1} \underline{0}_2$
2² = 4

2.6. $31_4 = 1101_2$

C. A.
 $3_4 = \underline{1} \underline{1}_2$
 $1_4 = \underline{0} \underline{1}_2$

3.

Base 2	Base 8	Base 10	Base 16
11110	36	30	1E
100101	45	37	25
101001	51	41	29

C. A.
 $3_8 = \underline{0} \underline{1} \underline{1}_2$
 $6_8 = \underline{1} \underline{1} \underline{0}_2$
 $11110_2 = 1E_{16}$
 $36_8 = 3 \times 8^1 + 6 \times 8^0 = 24 + 6 = 30_{10}$

$37 \overline{) 16}$
 $\swarrow 5 \overline{) 216}$
 $\swarrow 2 \overline{) 0}$

$2_{16} = \underline{0} \underline{0} \underline{1} \underline{0}_2$
 $5_{16} = \underline{0} \underline{1} \underline{0} \underline{1}_2$
 $100101_2 = 45_8$

$2_{16} = \underline{0} \underline{0} \underline{1} \underline{0}_2$
 $9_{16} = \underline{1} \underline{0} \underline{0} \underline{1}_2$

$101001_2 = 51_8$

$29_{16} = 2 \times 16^1 + 9 \times 16^0 =$
 $= 32 + 9$
 $= 41_{10}$

4.
 4.1. $A4_{16} + 425_{16} = 4C9_{16}$

$\begin{array}{r} 0A4 \\ + 425 \\ \hline 4C9 \end{array}$
10
12

4.2. $2D_{16} + 7_{16} = 34_{16}$

$\begin{array}{r} 2D \\ + 7 \\ \hline 34 \end{array}$

$$4.3. \quad 4_{16} + F_{16} = 3C_{16}$$

$$\begin{array}{r} 4 \\ \times F \rightarrow 15 \\ \hline 3C \\ \swarrow C \quad 316 \\ \quad 30 \end{array}$$

$$4.4. \quad 2C_{16} \times 8_{16} =$$

$$\begin{array}{r} 2C \rightarrow 12 \\ \times 8 \\ \hline 60 \quad 16 \\ + 10 - + 8 - \\ \hline 160 \quad 9616 \\ \swarrow 0 \quad 616 \\ \quad 60 \end{array} \quad \begin{array}{r} 2 \\ \times 8 \\ \hline 1616 \\ \swarrow 0 \quad 116 \\ \quad 10 \end{array}$$

$$4.5. \quad 1110_2 - 11_2 = 1011_2$$

$$\begin{array}{r} 1110 \\ - 11 \\ \hline 1011 \end{array}$$

$$4.6. \quad 1001_2 - 11_2 = 110_2$$

$$\begin{array}{r} 1001 \\ - 11 \\ \hline 110 \end{array}$$

$$4.7. \quad 3ABC_{16} - 71_{16} = 3A4B_{16}$$

$$\begin{array}{r} 3ABC \\ - 71 \\ \hline 3A4B \end{array}$$

$$4.8. \quad 143_8 + 75_8 = 240_8$$

$$\begin{array}{r} 143 \\ + 75 \\ \hline 240 \end{array}$$

$$4.9. \quad 1011_2 \times 110_2 = 1000010_2$$

$$\begin{array}{r} 1011 \\ \times 110 \\ \hline 10110 \\ 10110 \\ + 10110 \\ \hline 1000010 \end{array}$$

$$4.10. \quad 143_8 - 75_8 = 46_8$$

$$\begin{array}{r} 143 \\ - 75 \\ \hline 46 \end{array}$$

$$4.11. \quad 9F_{16} - 10_{16} = 8F_{16}$$

$$\begin{array}{r} 9F \\ - 10 \\ \hline 8F \end{array}$$

$$4.12. \quad 123_4 + 330_4 = 1113_4$$

$$\begin{array}{r} 123 \\ + 330 \\ \hline 1113 \end{array}$$