

⑦

a.

3.75

→

~~3.75~~

$$3 \times 10^0 + 7 \times 10^{-1} + 5 \times 10^{-2}$$

$$1 \times 2^1 + 1 \times 2^0$$

base 2 → 11

base 8 → 011

base 8 → 3.6

base 16 → 0011.1100

3.C

b.

0.7 →

7×10^{-1}

$$\begin{array}{l} 7 \times 2 \rightarrow 1.4 \\ 4 \times 2 \rightarrow 0.8 \\ 8 \times 2 \rightarrow 1.6 \\ 6 \times 2 \rightarrow 1.2 \\ 2 \times 2 \rightarrow 0.4 \\ 4 \times 2 \rightarrow 0.8 \\ 8 \times 2 \rightarrow 1.6 \\ 6 \times 2 \rightarrow 1.2 \\ 2 \times 2 \rightarrow 0.4 \end{array}$$

base 8 → 0.54

1011

base 16 → B

101 100

~~101 100~~

1011 base 2

10110011001100...

$$c. 89.9 \quad 8 \times 10^0 + 9 \times 10^{-1}$$

89

~~89~~

1

$$\begin{array}{r} 44 \\ 2 \sqrt{89} \end{array}$$

$$22$$

$$2 \sqrt{44}$$

$$11$$

$$2 \sqrt{22}$$

$$5$$

$$2 \sqrt{11}$$

$$2$$

$$2 \sqrt{5}$$

$$1$$

$$2 \sqrt{2}$$

$$0$$

$$2 \sqrt{1}$$

1

1

Base 16

59. E4

$$01011001.11100100$$

$$\begin{array}{l} \text{Base 8} \rightarrow 131.71 \\ \text{Base 16} \rightarrow 131.71 \end{array}$$

$$1011001.111001$$

$$\begin{array}{l} \text{Base 2} \rightarrow 1011001.111001 \\ \text{Base 4} \rightarrow 1011001.111001 \end{array}$$

$$\begin{array}{l} \text{Base 2} \rightarrow 1011001.111001 \\ \text{Base 4} \rightarrow 1011001.111001 \end{array}$$

$$\begin{array}{l} 9 \times 2 = 1.8 \\ 8 \times 2 = 1.6 \\ 6 \times 2 = 1.2 \end{array}$$

$$1.8 \times 2 = 1.6$$