

$$32768 + 0 + 8192 + 4096 + 0 + 0 + 512 + 0 + 0 \\ + 64 + 32 + 16 + 0 + 4 + 0 + 1$$

↓

$$45685_{10}$$

2. $101110_2 + 100111011_2$

$$\begin{array}{cccccccccccc} 5 & 4 & 3 & 2 & 1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\ | & 0 & 1 & 1 & 1 & 0 & \cdot & 1 & 0 & 0 & 1 & 1 & 1 & 0 & 1 & 1 \end{array}$$

(~~1~~~~0~~)₂

$$(1 \times 2^5) + (0 \times 2^4) + (1 \times 2^3) + (1 \times 2^2) + (1 \times 2^1) + (0 \times 2^0) \\ 32 + 0 + 8 + 4 + 2 + 0$$

↓

$$46.$$

$$(1 \times 2^5) + (0 \times 2^4) + (0 \times 2^3) + (1 \times 2^2) + (1 \times 2^1) + (1 \times 2^0) \\ + (1 \times 2^7) + (0 \times 2^8) + (1 \times 2^9) + (1 \times 2^{10})$$

$$2 + 0 + 0 + 16 + 32 + 64 + 128 + 0 \\ + 512 + 1024$$

$$1778$$

$$46 \cdot 1778_{10}$$

PART C

1.

$$\begin{array}{r} 1001 \quad 0111 \\ + 0101 \quad ,1,1,1 \\ \hline 1111 \quad 0110 \end{array} \rightarrow 11110110_2$$