

$$\textcircled{1} \quad 9_{16} + C6_{16}$$

$$64 + 16 + 8 + 2 + 1$$

$$C_{16} \quad 6_{16}$$

$$1011011$$

$$\begin{array}{r} 11111 \\ 601011011 \\ + 611000110 \\ \hline 1001000001 \end{array}$$

$$\rightarrow \boxed{1001000001}$$

$$\boxed{289_{16}}$$

$$\textcircled{2} \quad 11_8 - 11_{10}$$

$$6001001 - 60,01011 \rightarrow \text{negative } 110100 \rightarrow 110101$$

$$= 6001001 + -(6110101)$$

$$= 6001001 + 6110101$$

$$\begin{array}{r} 001001 \\ 110101 \\ \hline \boxed{111110} \end{array}$$

$$000001$$

$$000010$$

$$\boxed{-2_{10}}$$

$$\textcircled{3} \quad 12,3125_{10}$$

$$11000101 I_4 A_4 + 00011000 I_4 A_4$$

$$\begin{array}{r} 11000101 \\ 00011000 \\ \hline 11011101 \end{array}$$

$$11011101 I_4 A_4$$

$$\boxed{13.8125_{10}}$$

$$\textcircled{5} \quad 9_{16} \cdot 3_{16}$$

$$= 1001 \cdot 0011 =$$

$$\begin{array}{r} 1001 \\ 0011 \\ \hline 01001 \\ 10010 \\ \hline 11011 \end{array}$$

$$\boxed{= 611011} \rightarrow \boxed{27_{16}}$$

$$\textcircled{4} \quad 5.75_{16} - 7.125_{10}$$

$$10111 I_3 A_2 - 111601 I_3 A_3$$

$$01011100 I_4 A_4 - 01110010 I_4 A_4$$

$$\begin{array}{r} \downarrow + \\ \downarrow \text{negative} \end{array}$$

$$10001110 I_4 A_4$$

$$\begin{array}{r} 01011100 \\ 10001110 \\ \hline 11101010 I_4 A_4 \end{array}$$

$$\begin{array}{r} \boxed{-00010110 I_4 A_4} \\ \hline \boxed{= -1.375_{10}} \end{array}$$

$$⑥ \quad (-5)_{10} \cdot (-6)_{10}$$

$$= 011 \cdot 110$$

$$\begin{array}{r} 011 \\ -110 \\ \hline 1000 \\ 10110 \\ 01100 \\ \hline 611110 \end{array}$$

↓

$$\boxed{611110 \rightarrow 30_{10}}$$

$$⑦ \quad 9.5_{10} \cdot 2675_{10}$$

$$= 10011I_4Q_1 \cdot 10101I_2Q_3$$

↓

$$10011000 I_4Q_4 \cdot 00101010 I_4Q_4$$

↓

$$\begin{array}{r} 10011000 \\ 00101010 \\ \hline \end{array}$$

$$\begin{array}{r} 111001100000 \\ 110011000000 \\ 10011000000000 \\ \hline \end{array}$$

$$b(11000.11100000)$$

$$\rightarrow \boxed{24.9375_{10}}$$

$$⑧ \quad -1.25_{10} \cdot 3.5_{10}$$

$$= 00101I_3Q_2 \cdot 01110I_3Q_2$$

↓

$$11010$$

$$11011I_3Q_2 \cdot 01110I_3Q_2$$

→

$$\begin{array}{r} 11110110 \\ 00011100 \\ \hline 11111111 \\ 111110110000 \\ 111110110000 \\ \hline 10101011110000 \end{array}$$

$$\boxed{10101011110000}$$

$$\begin{array}{r} 11011 \\ 01110 \\ \hline 11110110 \\ 11101100 \\ 11011000 \\ \hline \end{array}$$

$$\boxed{1101101 I_5Q_3}$$

$$00100010$$

$$00100011$$

↓

$$\boxed{-4.375_{10}}$$