1.

$$
\begin{array}{l}
11001001 \rightarrow 00110111 \quad \text{2s} \\
01100011 \rightarrow 10011101 \\
01010111 \rightarrow 10101001 \\
11111001 \rightarrow 00000111 \\
01000001 \rightarrow 10111111
\end{array}
$$

2.

$(+27) - (50)$

$$
\begin{array}{l}
\Rightarrow +27 \quad 011011 \\
 -50 \quad 1001110 \\
\hline
\end{array}
$$

1's $\begin{array}{l} \boxed{1}1010001 \\ 0101110 \end{array}$ $\Big\}$ 2s.

+1 $\downarrow$ 1

$\boxed{1}010111 \Rightarrow -23$

$(-42) - (30)$

$$
\begin{array}{l}
-42 \quad 1010110 \\
+ -30 \quad\; 100010 \\
\hline
\end{array}
$$

1's $\begin{array}{l} \boxed{1}111000 \\ 000111 \end{array}$ $\Big\}$ 2's

+1 $\downarrow$ 1

$\boxed{1}001000 = -72$

3.

4.

$C = \overline{A} B \; (A < B)$

$D = \overline{\overline{A}B + A\overline{B}} \; (A = B)$

$E = A\overline{B} \; (A > B)$
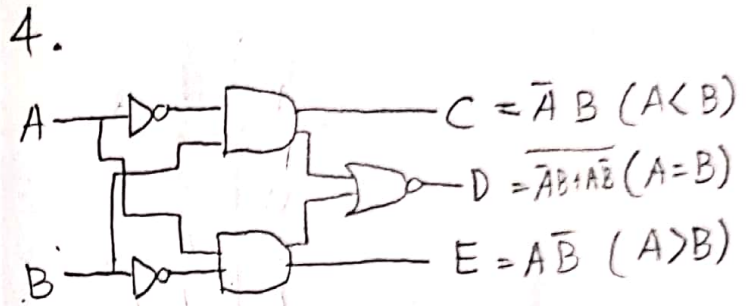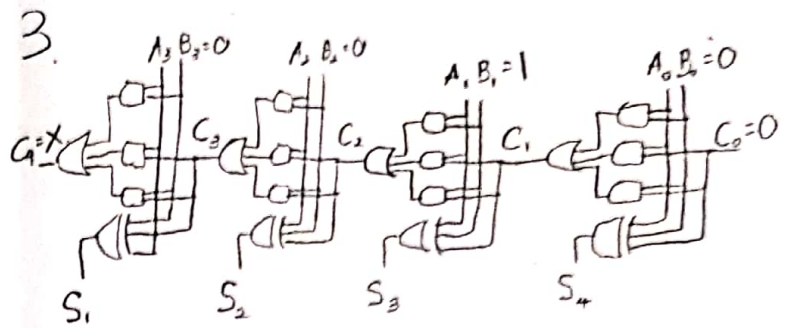
B	A	A>B	A=B	A<B
0	0	0	1	0
0	1	1	0	0
1	0	0	0	1
1	1	0	1	0