

Name: _____

Lab Section: _____

Problem 1 (3 points)

- (a) Add in binary (b) Subtract using 2's complement (with addition) (c) Multiply in binary

$$\begin{array}{r} 01001 \\ + 00111 \\ \hline \end{array}$$

$$\begin{array}{r} 01010 \\ - 00101 \\ \hline \end{array}$$

$$\begin{array}{r} 01101 \\ \times 00011 \\ \hline \end{array}$$

Problem 2 (3 points) Find the minimum sum of products for Z from the following Karnaugh Map.

		CD			
AB		00	01	11	10
	00	1	0	0	1
	01	0	0	0	0
	11	0	1	1	0
	10	1	0	0	1

Z

Z =

Problem 3 (4 points) Draw the Moore state transition graph corresponding to a toggle (T) flip-flop. Write the next state equation. Implement it using a single D-FlipFlop and logic gates.