

# Quiz 2

(February 10<sup>th</sup> @ 5:30 pm)

## PROBLEM 1 (30 PTS)

- Complete the following table. Use the fewest number of bits in each case:

REPRESENTATION			
Decimal	Sign-and-magnitude	1's complement	2's complement
-30			
			10000
		101110	
	11001		

- Convert the following decimal number to its 2's complement representation: -30.375

## PROBLEM 2 (30 PTS)

- Implement the following function using ONLY 2-to-1 MUXs:

$$f(x, y, z) = xy + yz + xz$$

## PROBLEM 3 (40 PTS)

- Complete the timing diagram of the circuit shown below:

