

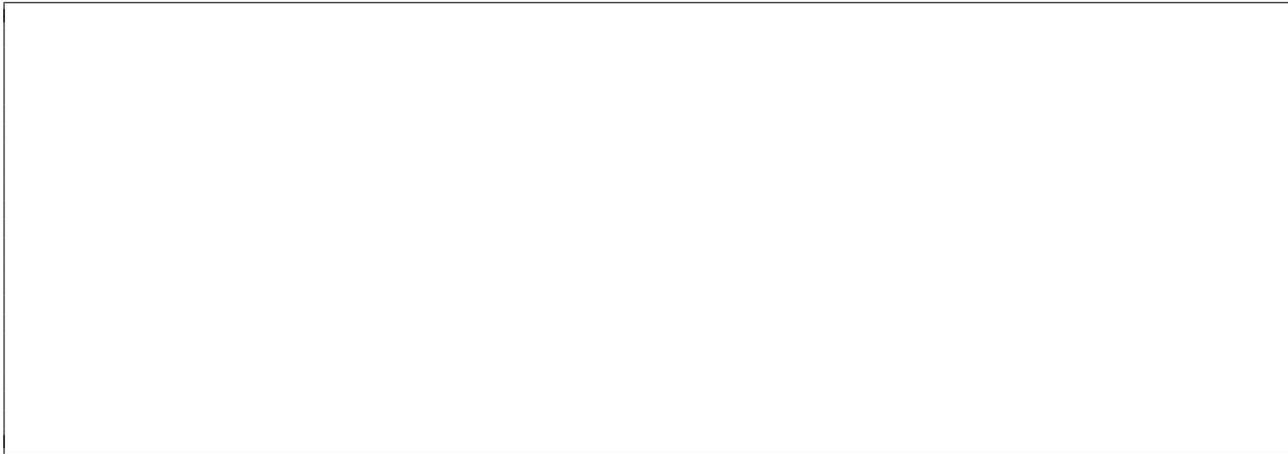
**Question 1: 4:1 Multiplexor** We are going to design a full adder. First fill in the truth table below.

A	B	$C_i$	$C_o$	S
0	0	0	_____	_____
0	0	1	_____	_____
0	1	0	_____	_____
0	1	1	_____	_____
1	0	0	_____	_____
1	0	1	_____	_____
1	1	0	_____	_____
1	1	1	_____	_____

Boolean equations for the sum ( $S$ )

Boolean equation for the carry out ( $C_{out}$ ):

Draw the circuit diagram:



**Question 2: Subtraction Circuit Design** Fill in the rest of the diagram to create a subtractor circuit.

$A_3 B_3$        $A_2 B_2$        $A_1 B_1$        $A_0 B_0$

