

Name _____ CM _____

Due date: Tuesday, Sept. 23

ECE130-03

Homework #6 (Kmaps)

Fall 2003

- 1 (Adapted from Problem 9 on page 43 of Dr. Eccles' book).
 Minimize $Z(A,B,C)=\Sigma(1,4,5,6,7)$ into And-Or logic (Sum of Products).

		AB			
		00	01	11	10
C	0				
	1				

- 2 (Adapted from Problem 12 on page 43 of Dr. Eccles' book).
 Minimize $Z(A,B,C,D)=\Sigma(2,3,4,5,10,11,12,13,14,15)$ into And-Or logic (Sum of Products). If there are multiple minimal forms, give them all.

		AB			
		00	01	11	10
CD	00				
	01				
	11				
	10				

- 3 (Adapted from Problem 24 on page 44 of Dr. Eccles' book).
 Minimize $Z(S3,S2,S1,S0)=\Pi(1,3,5,9,12)+d(2,6,8,14)$ into And-Or logic (Sum of Products). If there are multiple minimal forms, give them all.

		AB			
		00	01	11	10
	00				
	01				
	11				
	10				

- 4 (Adapted from Problem 15 on page 43 of Dr. Eccles' book).
Minimize $Z(A,B,C)=\Pi(1,2,3,5,6)$ into Or-And logic (Product of Sums). (Notice the pi notation.)

		AB			
		00	01	11	10
C	0				
	1				

- 5 Minimize $Z(a_3,a_2,a_1,a_0)=\Sigma(4,5,12,14)+d(0,6,8,13,15)$ into Or-And logic (Product of Sums). (Notice the Σ notation.)

		a ₃ a ₂			
		00	01	11	10
a ₁ a ₀	00				
	01				
	11				
	10				