Name_____Solution_____

CSE 370 – Introduction to Digital Logic Design
Spring 2010
Quiz #3

For maximum credit, show all your work. Please raise your hand if you have a question.

Write the following function, F(A, B, C, D) = AC'D' + BC'D + A'B'C + AB'D + A'BD + AB'C in:
(I encourage you to use the ∑ and ∏ shorthand notation where appropriate.)

a) The canonical sum of products form **∑m(2,3,5,7,8,9,10,11,12,13) =**
A'B'CD' + A'B'CD + A'BC'D + A'BCD + AB'C'D' + AB'C'D + AB'CD' + AB'CD + ABC'D' + ABC'D

b) The canonical product of sums form **∏M(0,1,4,6,14,15) =**
(A+B+C+D) (A+B+C+D') (A+B'+C+D) (A+B'+C'+D) (A'+B'+C'+D) (A'+B'+C'+D')

c) A minimal sum of products form

AC' + B'C + A'BD

d) A minimal product of sums form

(A+B+C)(A'+B'+C')(A+B'+D)

Here are a couple K-maps you may use.