Problem 1:

Given: \( F=\Sigma(4, 6, 8, 9, 10, 11, 13, 15) \)

Find using K-maps:

a. A Boolean expression using the Sum-of-Products method.

The expression show use the largest groupings possible and the fewest number of groups. The expressions obtained from the K-Maps do not need to be simplified further.

\[ F = A'B'D' + AD + AB' \]

\[ F = (A+B)(A+D')(A'+B'+D) \]