

Figure 1 illustrates the reduction of a 5-variable function using Karnaugh maps. The top row shows the initial maps for variables  $X_0$ ,  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$ . The bottom row shows the maps after applying the reduction rule, with some cells highlighted in red. The maps are labeled with their respective variables and the resulting function values.