

Reduce the following to minimum-sum-of-products. (*e.g.*,  $A^*/B + /A^*B$ )

1.  $A^*B^*C + A^*B^*/C$

2.  $A^*B + A^*C + /B^*C$

3.  $/A^*/B^*/C^*/D + /A^*B^*/C^*D + /A^*B^*C^*D + A^*/B^*/C^*/D + A^*/B^*/C^*D + A^*/B^*C^*/D$   
 $+ A^*/B^*C^*D + A^*B^*C^*/D + A^*B^*C^*D$