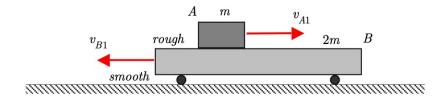**Homework H.4.K**

Given: Block B (of mass $2m$) is able to slide along a smooth horizontal surface. Block A (of mass m) is able to slide along the rough top surface of block B, as shown in the figure. Initially, A is traveling to the right with a speed of v_{A1}, and block B is traveling to the left with a speed of v_{B1}.

Find: Determine the velocity of block B when block A has to come rest relative to block B.