

Homework H.4.D

Given: Blocks A and B (having masses of m and $2m$, respectively) are constrained to move along a smooth inclined surface. Cable (1) is connected to fixed ground at D and to the center of pulley C, as shown, with cable (1) being wrapped around a pulley connected to block A. A second cable (2) is connected between the fixed ground at D and block B. The pulleys are to be assumed to be of negligible mass, and the cables are assumed to be inextensible and not allowed to go slack. The sections of the cables not wrapped around pulleys are parallel to the incline on which blocks A and B move. A force F acts along the direction of the incline on block A.

Find: For this problem, determine the accelerations of blocks A and B.

