**Homework 11**

**PROBLEM 13.121**

The initial velocity of the block in position $A$ is 30 ft/s. Knowing that the coefficient of kinetic friction between the block and the plane is $\mu_k = 0.30$, determine the time it takes for the block to reach $B$ with zero velocity, if (a) $\theta = 0$, (b) $\theta = 20^\circ$.

**PROBLEM 13.133**

The system shown is released from rest. Determine the time it takes for the velocity of $A$ to reach 1 m/s. Neglect friction and the mass of the pulleys.

**PROBLEM 13.148**

Bullet $B$ weighs 0.5 oz and blocks $A$ and $C$ both weigh 3 lb. The coefficient of friction between the blocks and the plane is $\mu_k = 0.25$. Initially, the bullet is moving at $v_0$, and blocks $A$ and $C$ are at rest (Fig. 1). After the bullet passes through $A$, it becomes embedded in block $C$, and all three objects come to stop in the positions shown (Fig. 2). Determine the initial speed of the bullet $v_0$. 
