The blocks $A$ and $B$ shown are connected by a cable and pulleys and are moving to the right, where $\mu_k = 0.1$ between the support and the blocks. Using the principle of virtual work in kinetics, determine (a) the accelerations $a_A$ and $a_B$ of the blocks, (b) the tension $F$ in the cable.

$$\begin{align*}
\delta U: & \quad 8.05(-0.5\delta x_B) + (30 - 6.44)(\delta x_B) \\
& = 2.5(-0.5a_B)(-0.5\delta x_B) + 2a_B(\delta x_B) \\
& \Rightarrow a_B = 7.44190 \quad a_A = -3.72095 \\
\mathbf{a}_A = 3.72 \text{ ft/s}^2 \quad \Rightarrow & \quad \mathbf{a}_B = 7.44 \text{ ft/s}^2 \quad \Rightarrow
\end{align*}$$

\[ F = 4.338 \quad F = 4.34 \text{ lb} \]