For MATLAB® problems turn in your commented MATLAB® code along with plots and other output data.

1. In the figure below $m = 10\text{kg}$, $\phi = 25^\circ$, $v(0) = 2\text{m/sec}$, and $\mu = 0.3$. Determine where the mass comes to rest if (a) $f_1 = 100\text{ N}$ and (b) $f_1 = 50\text{ N}$. If the mass comes to rest, compute the time at which it stops.

2. In the figure below $m_A = 100\text{ kg}$ and $m_B = 20\text{ kg}$. Determine the acceleration and direction of the two blocks.