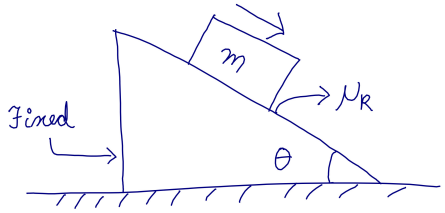
Physical Science 303 - Extra Credit Assignment

1. Find the acceleration (magnitude and direction) of the mass $m = 3$ kg sliding on a fixed inclined plane with the $\theta = 30^\circ$ as shown in figure. Compute the acceleration for $\mu_k = 0$ (frictionless) and $\mu_k = 0.1$.



Directions: As usual, draw the FBD for the mass (consider all the possible forces acting on it). Choose a convenient set of axis and resolve the forces along them. Finally apply the Newton's laws of motion for both the axis and find the resultant motion of the mass.