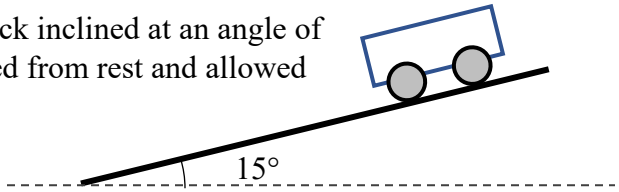
PHYS 1110 Group Work Sheet
Forces on an incline

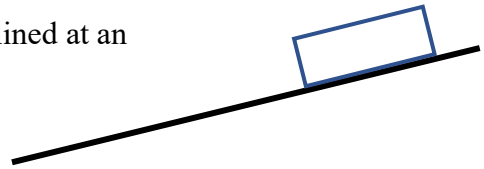
With your group, discuss how to answer these questions and write your group answer in the space provided.

1. A 5.00-kg cart on a frictionless track inclined at an angle of $\theta = 15°$ above horizontal is released from rest and allowed to roll freely.



   The constraint imposed by the normal force on the cart is that the cart will not accelerate normal to the track. Find the acceleration of the cart. (I suggest using a components table.)

2. A 5.00-kg block rests on a frictional track inclined at an angle of 15° above horizontal.



   a. What is the magnitude of the force of friction on the block?

   b. What is the smallest possible value of the coefficient of static friction between the block and the track?