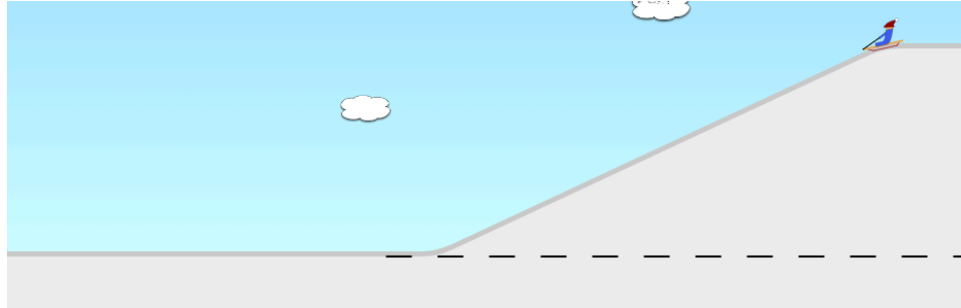
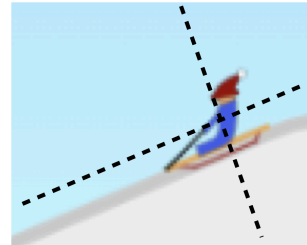


Billy on Hill Level 2

Step 1: In the picture below list all the different variables for your problem. This includes the mass of your sledder, the length of the hill, the angle the hill makes with the horizontal, the gravitational field of the planet where this is taking place, and the coefficient of friction between the sled and the snow



Step 2: Draw in the forces on the sledder when they are on the hill. Show all the necessary calculations to get the force of friction between the sledder and the hill



Step 3: Show your energy conservation formula as you convert the energy of the sledder at the top of the hill into the energy they have at the bottom of the hill and the energy lost due to friction when moving down the hill. Use this to find the speed of the sled at the bottom of the hill

Step 4: Draw and calculate the forces on the sledder when they are on the horizontal section of the scene.



Step 5: Realizing that the mechanical energy of the sledder at the bottom of the hill is taken away through work done by friction, find the distance the person will move horizontally before stopping. Put your answers in your program to make sure you did everything properly