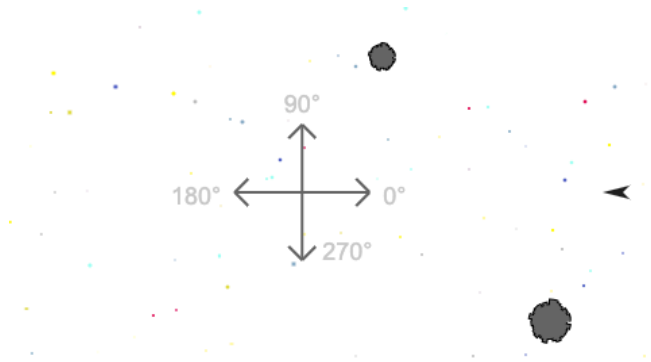


2-D Momentum Conservation (Kuiper)

Step 1: Assume the explosive device added no significant momentum to the system. Clearly show all the masses and velocities that you know for the two fragments of the Kuiper Belt Object (KBO) after it was split in two. Draw the velocity vectors of each fragment showing the direction they were moving



Step 2: Since you know everything about fragment 1, calculate the velocity and momentum of it in both the x and y directions. Show your work neatly below

Step 3: Since the KBO started with no momentum in the y-direction, you should be able to find the mass of fragment 2. Show your work below

Step 4: Now calculate the total x momentum after the fragments are created and then use that to find the velocity of the KBO before it is broken up. Show the vector in the picture below. Enter your answers into the program to make sure you did everything correctly

