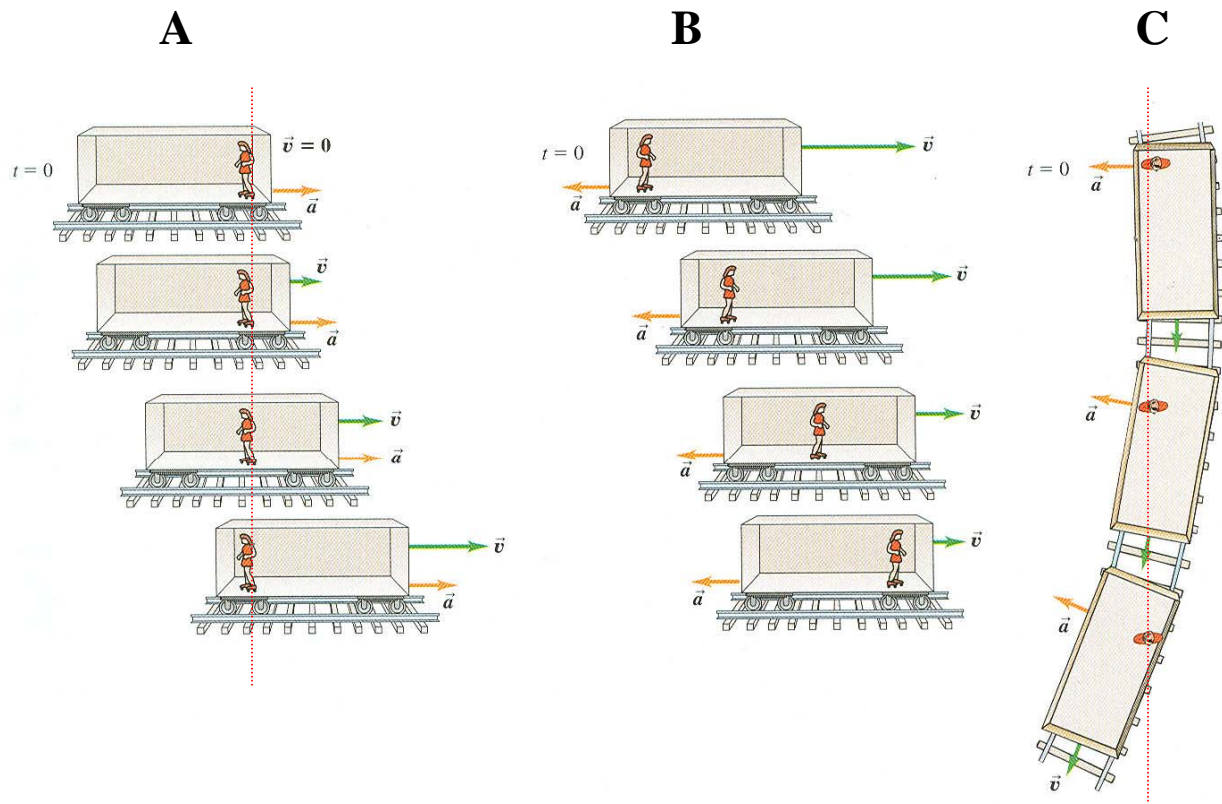


Riding in an Accelerating Vehicle

(Non-inertial Reference Frames)



A: If you and the vehicle are initially at rest, you will remain at rest as the vehicle **accelerates** around you.

*An observer ON THE TRAIN would see you accelerating to the **left** and assume a force is acting on you **to the left**, when in fact they are the one that is accelerating to the right.*

B: If you and the vehicle are initially moving, you will continue moving with a constant velocity as the vehicle slows down (**decelerates**) around you.

*An observer ON THE TRAIN would see you accelerating to the **right** and assume a force is acting on you **to the right**, when in fact they are the one that is accelerating to the left.*

C: If you and the vehicle are initially moving, you will continue moving with a constant velocity (*in a straight line*) as the vehicle turns (**centripetal acceleration**) around you.