ACT

A flatbed railroad car is accelerating down a track due to gravity. The ball is shot perpendicular to the track. Where will it land?

A. Forward of the center of the car

B. At the center of the car ⟵ correct

C. Backward of the center of the car

x direction Ball

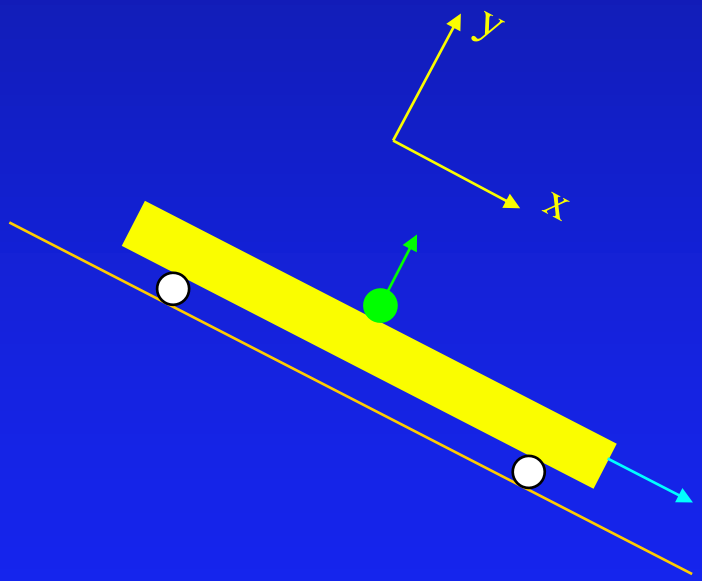
$$mg \sin(\theta) = ma$$

$$a = g \sin(\theta)$$

x direction Cart

$$mg \sin(\theta) = ma$$

$$a = g \sin(\theta)$$



Same acceleration gives same position