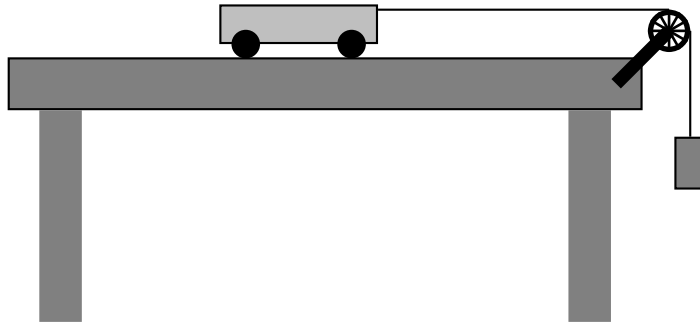


Question 1

A cart can slide back and forth along a frictionless track. A string is attached to the cart and a mass is suspended from this. The cart is given a brief initial push and starts moving left. The cart slows down and reverses direction, moving right.

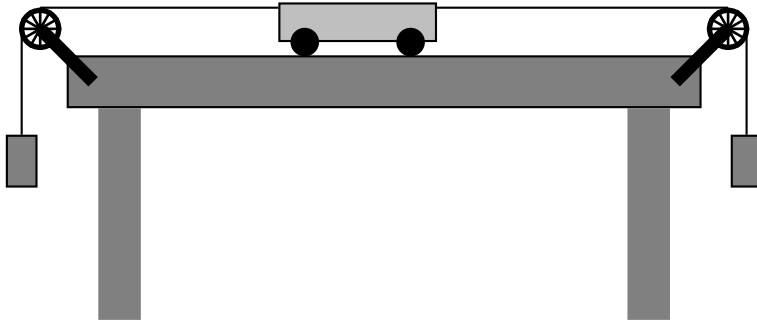


Which of the following is true?

1. There is no force on the cart throughout the motion.
2. As the cart reverses its speed drops to zero and the force drops to zero.
3. As the cart reverses its speed drops to zero and the force never drops to zero.
4. There is always a force on the cart and so its speed is never zero.

Question 2

A cart can slide back and forth along a frictionless track. Strings are attached to the cart and masses are suspended from them. For a while the cart is observed to move to the right with constant speed. Ignore air resistance.



Which of the following is true?

1. This is only possible if the mass on the right is larger than the mass on the left.
2. This is only possible if the mass on the right is smaller than the mass on the left.
3. This is only possible if the mass on the right is the same as the mass on the left.