

energy, and forces that could apply to the cart rebounding when tapped by the hand.



If you think a statement is true for one of the four moments listed above, place a check-mark in the appropriate box in the table. If you think it is false for that moment, leave the box blank.

You can assume the effects of friction are negligible.

Statement	A	B	C	D
There is a contact push/pull interaction between the cart and the hand.				
Mechanical energy is being transferred from the cart to the hand.				
Mechanical energy is being transferred from hand to the cart.				
The kinetic energy of the cart is decreasing				
The kinetic energy of the cart is decreasing				
The force in the direction opposite to its motion is being exerted on the cart by the hand.				
The force in the direction opposite to its motion is being exerted on the cart by the hand.				

Shown on the following page are both I/O energy diagrams and force diagrams that give the complete “storyline” for the cart reversing direction. Look at the diagrams and pay careful attention to when the kinetic energy of the cart changes, when mechanical energy transfers occur, and when a force acts on the cart.