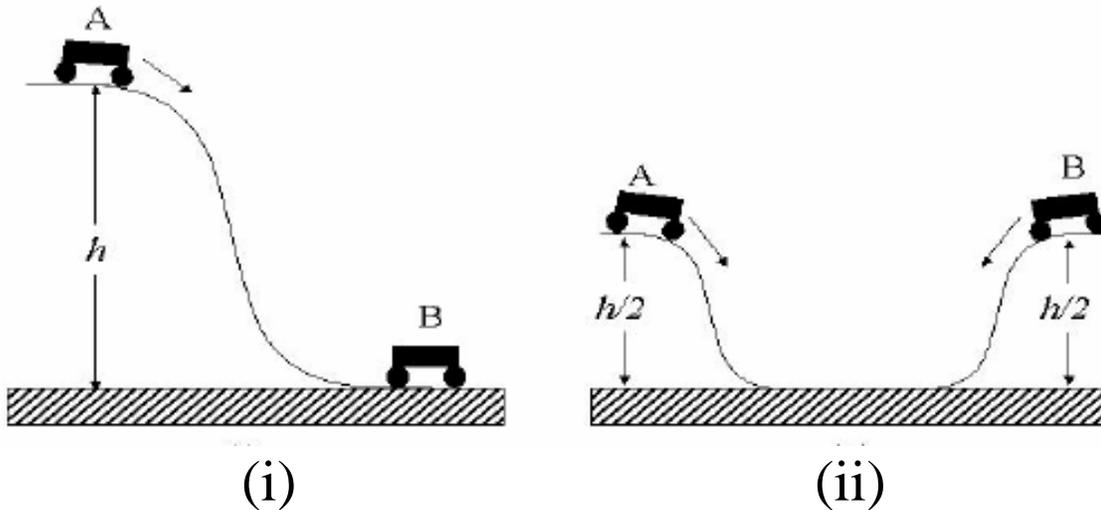


Two identical cart roll down hills and stick together in two different situations.



Which one of the following statements is true just before the carts collide in the two cases?

- (1) the kinetic energy of the system is zero in case (ii).
- (2) the kinetic energy of the system is greater in case (i) than in case (ii).
- (3) the kinetic energy of the system is the same in both cases.
- (4) the momentum of the system is greater in case (ii) than in case (i).
- (5) the momentum of the system is the same in both cases.
- (6) more than one of these statements