

PHYSICS HOMEWORK QUIZ #12D

MOMENTUM CONSERVATION

A 8.0 kg mass is moving toward the right with a velocity of 9.2 m/sec when it collides with a 3.5 kg mass moving toward the left with a velocity of 4.7 m/sec. After the collision the 3.5 kg bounces off toward the right with a new velocity of 14.41 m/sec.

1. What will be the momentum of the 8.0 kg mass before the collision? [3 pts]
2. What will be the total momentum of this system immediately before the collision? [3 pts]
3. What will be the speed of the 8.0 kg. mass immediately after the collision ? [3 pts]
4. What is the coefficient of restitution in this collision ? [3 pts]
5. How much energy will be lost in the collision between the two masses ? [3 pts]