

Name: _____

Date: _____

MCHS Honors Physics 2013-2014

Impulse 1

Remember: $impulse = F \times t$

1. Ian kicks a ball with a force of 50N. Find the impulse on the ball if his foot stays in contact with the football for 0.01s.
2. Keyley applies an average force of 80N to a 0.25kg hockey puck for a time of 0.2s. Determine the impulse experienced by the hockey puck.
3. Mariah needs to hang a picture in her bedroom. She uses a hammer to drive the nail into the wall. If the hammer stays in contact with the nail for 0.5s and has an impulse of 25Ns, find the force exerted by the hammer on the nail.

Also, remember: $impulse = change\ in\ momentum$

4. A 0.5kg baseball experiences a 10N force for a duration of 0.1s. What is the change in velocity of the baseball?
5. A space shuttle burns fuel at the rate of 13,000kg in each second. Find the force exerted by the fuel on the shuttle if in 2s the shuttle experiences a change in momentum of 325,000kgm/s.

