

Impulse and Momentum!

Physics 432

Name: _____
1 2 3 4 5 6 7 8

- 1) Tina the Golfer swings with a force of 40 N at a .2 kg golf ball. If her impact lasts .12 seconds,
- Calculate the impulse on the ball
 - Calculate the change in velocity of the ball
- 2) Quinn the Quarterback has a mass of 90 kg. During a game, he was tackled by an opposing player moving at 6.0 m/s, and they stuck together. If Quinn was initially at rest, and after tackled, his velocity was 2.55 m/s, what was the mass of the opposing player?
- 3) A 1.5 kg watermelon is dropped from a diving board into the water, and then again dropped onto the pavement. If the watermelon was moving 12 m/s just before striking the surface, and the time of impact was 2.1 and then .12 seconds, calculate the force of impact for the ground and the water.
- 4) A 50 kg woman loosely holds a 10 kg bazooka with a 1 kg projectile inside (total mass- 11 kg). If the bazooka fires 1 kg projectile at 80m/s, what is the recoil velocity? If the woman now firmly holds the bazooka, what is the recoil velocity?
- 5) A Ferry ($m = 13000000$ kg) is travelling at 11 m/s when the engines are put in reverse. The engines produce a force of 1.0×10^6 N for a period of 20.0 seconds.
- What is the magnitude of the impulse from the engine?
 - What is the new momentum of the ferry?
 - What is the new velocity of the ferry?