Momentum Day 1 + 2 Practice

$p = mv$ $I = Ft$ $p_{before} = p_{after}$

1. Calculate the momentum of a 0.15 kg ball that is moving toward home plate at a velocity of 40m/s.

2. Which has greater momentum, a 2.0kg hockey puck moving east at 2.5m/s or a 1.3kg hockey puck moving south at 3.0m/s?

3. A track athlete throws a 2kg discus into a field with a velocity of 21m/s. What is the momentum of the discus?

4. A cannon fires a 40.5kg shell toward a target and the shell moves with a velocity of 120m/s. Calculate the shell's momentum.

5. An 85.0 kg fisherman jumps from a dock into a 135.0 kg rowboat at rest on the dock. If the velocity of the fisherman is 4.30 m/s as he leaves the dock, what will the final velocity of the fisherman and the boat?

6. A 0.105 kg hockey puck moving at 24 m/s is caugnt and held by a 75 kg goalie at rest. With what speed does the goalie slide on the ice?

7. Each croquet ball in a set has a mass of 0.50 kg. The green ball (traveling at 12.0 m /s) strikes the blue ball (which is at rest). Assuming all collisions are head-on, what is the speed of the blue ball if the green ball stops moving after it strikes.