

Impulse WS 3

Impulse Word Problems

1. A .015 kg bullet is fired from a rifle at rest by an unbalanced force of 200 N. If the force acts on the bullet for .04 seconds, what is the maximum velocity magnitude obtained by the bullet?
2. What is the velocity magnitude of a 6 kg object after starting from rest and being acted upon by an impulse of 500 N*s?
3. A .035 kg bullet is fired from a 6.5 kg rifle initially at rest. If the bullet leaves the rifle with a velocity of 450 m/s, what is the impulse magnitude on the rifle?
4. A 20 kg rocket's engine delivers a total impulse of 600 N*s in .2 seconds. What was the average net force on the rocket?
5. A 65 kg woman threw a .5 kg from rest to a velocity of 11 m/s in .2 seconds. What was the impulse magnitude that the woman delivered to the ball?
6. A baseball catcher is able to catch a .145 kg ball in his glove within .2 seconds. If the ball was initially traveling at 40 m/s, what was the average net force magnitude of the glove on the ball?