



Department of Physics

Physics 161, Calculus Mechanics and particle dynamics

Quiz #6

In a rifle barrel, a 15g bullet is accelerated from rest to a speed of 780m/s.

- a) Find the work that is done on the bullet.
- b) If the rifle barrel is 72cm long, find the magnitude of the average total force that acted on it.
- c) Find the constant acceleration of a bullet that starts from rest and gains a speed of 780m/s over a distance of 72cm.
- d) If the bullet has a mass of 15g, find the total force that acted on it by solving directly $F = ma$.