

## Questions for MACE-11010 Engineering Mechanics

### Kinematics

In the final stage of a moon landing, the lunar module descends under retro-thrust of its descent engine to within

$$h = 5m \quad (1)$$

of the lunar surface when it has a downward velocity

$$v_0 = 2m/s. \quad (2)$$

If the descent engine is cut off abruptly at this point, compute the impact velocity of the landing gear with the moon. Lunar gravity is  $1/6$  of the earth's gravity.