KINEMATICS ASSIGNMENT 2

/25

Using the "GRASS" method, solve the following.

1. What is the displacement of a logging truck accelerating from 10 m/s [right] to 20 m/s [right] in 5.0 s?

2. Determine the acceleration of bullet starting from rest and leaving the muzzle 2.75×10^{-3} s later with a velocity of 460 m/s [forward].

3. A train's stopping distance, even when full emergency breaks are engaged, is 1.3 km. If the train was travelling at an initial velocity of 90 km/h [forward], determine its acceleration under full emergency breaking.

4. What is a motorcycle's acceleration if it starts from rest and travels 350.0 m [S] in 14.1 s?

5. A typical person can tolerate an acceleration of about -49 m/s^2 [forward]. If you are in a car travelling at 110 km/h and have a collision with a solid immovable object, over what minimum distance must you stop so as to not exceed this acceleration?