THE 5 KINEMATICS EQUATIONS ~ PRACTICE

1. A rocket begins its third stage of launch at a velocity of 2.28 x 102 m/s [fwd]. It undergoes a constant acceleration of 6.25 x 101 m/s2, while travelling 1.86 km, all in the same direction. What is the rocket’s velocity at the end of this motion?
2. Starting from rest, a car accelerates uniformly at 4.1 m/s2 [S]. How long does it take for the car to travel 51 m [S]?
3. A plane travelling at 52 m/s [W] down a runway begins accelerating uniformly at 2.8 m/s2 [W]. What is the plane’s velocity after 5.0 s?
4. For a certain motorcycle, the magnitude of the braking acceleration is$\left|4\vec{g}\right|$. If the bike comes to a stop in 0.82 s, calculate the stopping distance.
5. A car travelling along a highway must uniformly reduce its velocity to 12 m/s [N] in 3.0 s. If the displacement travelled during that time interval is 58 m [N], what was the car’s initial velocity?