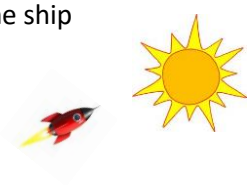
Kinematics Review Problems

Name: _____ Date: _____

1. A rocket ship containing garbage from Earth is to be incinerated in the Sun. The ship accelerates from rest to a speed of 2,300 km/h in a distance of 8.9 km. Calculate the length of time during which the ship was accelerating.



2. A student launches a model rocket in the school yard. The rocket accelerates from rest at a rate of 178 m/s/s for just 0.456 s. Calculate the maximum height that the rocket reaches. [Assume it is launched straight up, only accelerates for the 0.456 s and that there is no air resistance.]

3. A car is heading towards a cat on the road at +110 km/h. The driver applies the brakes which causes a constant acceleration of $-15\ m/s^2$. Determine its velocity 1.6 seconds after the brakes are applied. How far did it travel in this time?

4. A car was accelerating down the road. The average speed of the car was found to be 34 m/s during the trip and the final speed of the car was known to be 50 m/s. The car travelled 125 m in this time. Calculate the acceleration of the car.