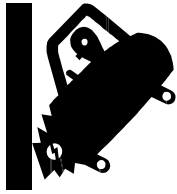


MA 182 GROUP WORK (7.1)

NAME _____



The brakes of a car traveling 70 mph decelerate the car at the rate of 18 ft/s^2 .

Hints: (1 Mile = 5280 Feet)

$y(t)$ is the position function of the car.

Then, $y'(t)$ is the velocity of the car at time t , and $y''(t)$ is the acceleration of the car at time t .

If the car is slowing down is y'' positive or negative?

A. Determine the differential equation that the position function $y(t)$ satisfies?

That is, $y''(t) =$

B. What are the initial conditions (for y and y')?

C. If the car is 275 feet from a barrier when the brakes are applied, will it hit the barrier?