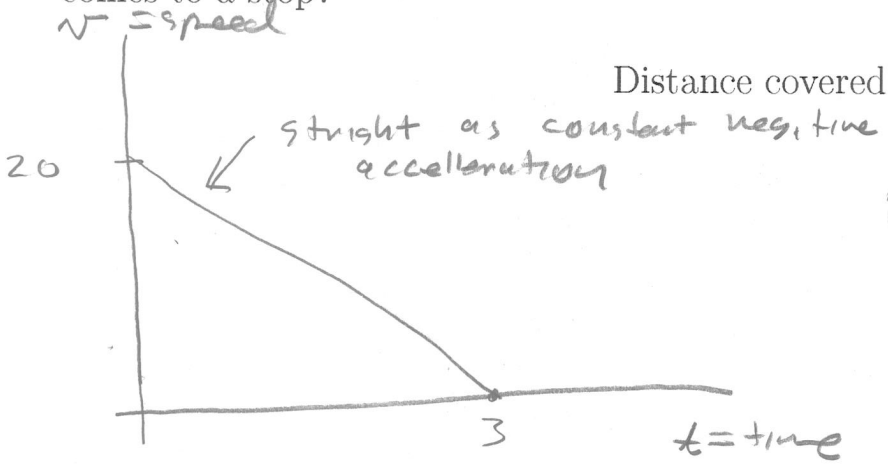
Mathematics 122

Quiz #28 Name: Key

You must show your work to get full credit.

A car traveling at 20 feet/sec applies its brakes and comes to a stop 3 sec later. Assume that the rate of braking is constant, (that is constant negative acceleration).

1. How far does the car travel from the time the brakes are applied and when it comes to a stop?



Distance covered = 30 ft

Distance covered = area under rate graph

= Area $\left(20 \text{ by } 3\right)$

$= \frac{1}{2}(20)(3) = 30$

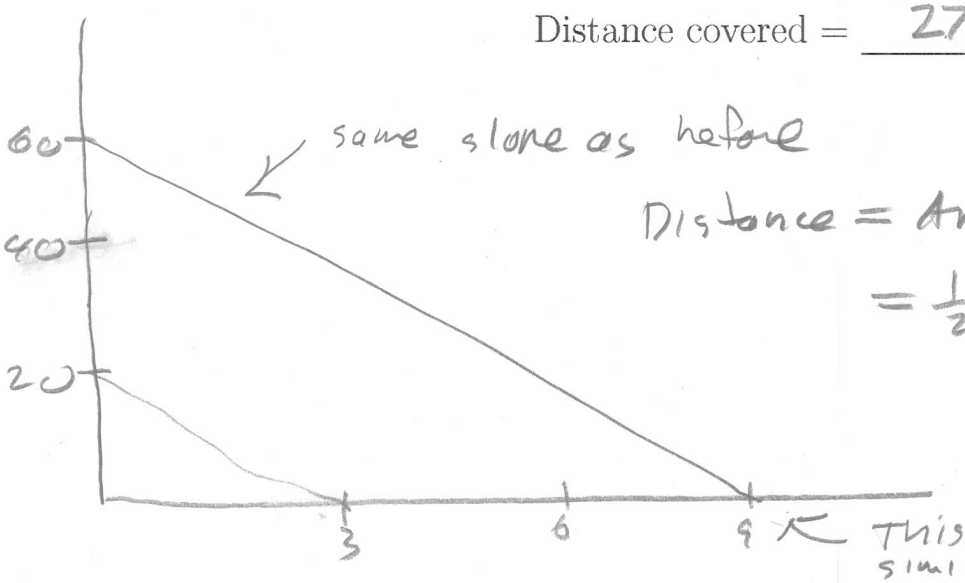
2. If the car was traveling at 60 feet/sec and applied braked at the same constant rate

(a) How long before the car comes to a stop?

Time to stop is 9 sec

(b) This time how far does the car travel between the brakes being applied and coming to a stop?

Distance covered = 270 ft



Distance = Area $\left(60 \text{ by } 9\right)$

$= \frac{1}{2}(60)(9) =$