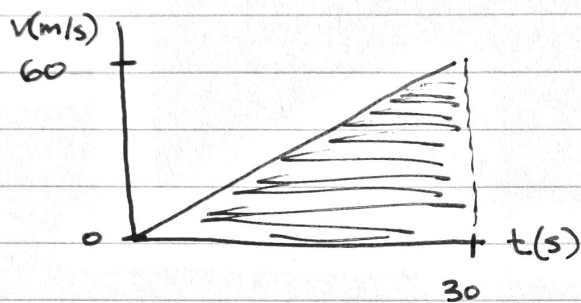


How far does a uniformly-accelerating car travel under the following conditions?

$$v_i = 0$$

$$a = 2 \text{ m/s/s}$$

$$t = 30 \text{ s}$$



$X \rightarrow$  area under  
the  $v-t$  curve

$$X = \frac{1}{2}(30)(60) \\ = 900 \text{ m}$$

or

$$X = X_i + v_i t + \frac{1}{2} a t^2$$

$$= 0 + 0(30) + \frac{1}{2}(2)(30^2)$$

$$= 900 \text{ m}$$

the car travels 900m