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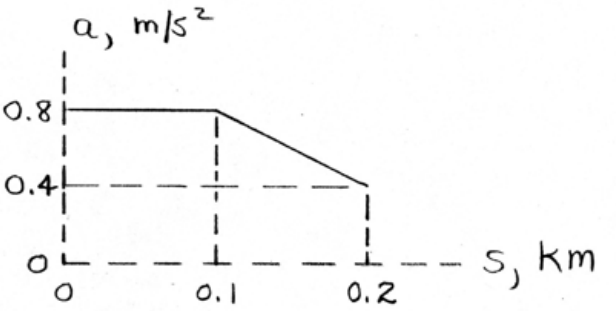


From $a = v\frac{dv}{ds}$,

$$\int_{v_0}^{v} v\,dv = \int_{0}^{200} a\,ds = \text{area under a-s curve}$$

$$\frac{v^2}{2} - \frac{(40/3.6)^2}{2} = 0.8(100) + 0.6(100)$$

$v = 20.1$ m/s or 72.3 km/h