

$$2/31 \quad a = v \frac{dv}{ds} = \frac{1}{2} \frac{d(v^2)}{ds} = \frac{1}{2} \frac{\Delta(v^2)}{\Delta s} = \frac{1}{2} \frac{36-16}{80-30} = \frac{1}{5} \text{ m/s}^2$$

Counting time from A, $v = v_A + at$, $v = 4 + \frac{1}{5}t$

At B, $6 = 4 + \frac{1}{5}t_B$, $t_B = 10 \text{ sec}$.

$$\Delta s = \int v dt = \int_0^{10} (4 + \frac{1}{5}t) dt = 4(2) + \frac{1}{10}(100 - 64)$$

$$\Delta s = \underline{11.6 \text{ m}}$$