

## Tressfysikk – Løsning oppgave 1.329

Startfarten  $v_0 = 0,0$  [m/s]. Starttiden  $t_0 = 0,0$  [s] Akselerasjonen  $a = 4,0$  [m/s<sup>2</sup>]

a) Etter  $t_1 = 3,0$  [s] er farten  $v_1$ :

$$a = \frac{\Delta v}{\Delta t} = \frac{v_1 - v_0}{t_1 - t_0} = \frac{v_1}{t_1} = \frac{v_1}{3,0 \text{ [s]}} = 4,0 \text{ [m/s}^2\text{]}$$

$$v_1 = 4,0 \cdot 3,0 \text{ [s} \cdot \text{m/s}^2\text{]} = 12,0 \text{ [m/s]}$$

b) Etter ytterligere 5,0 [s],  $t_2 = t_1 + 5,0$  [s] = (3,0 + 5,0) [s] = 8,0 [s], er farten  $v_2$ :

$$v_2 = t_2 \cdot a = 8,0 \text{ [s]} \cdot 4,0 \text{ [m/s}^2\text{]} = 32,0 \text{ [m/s]}$$

c) Den totale avstanden legemet har beveget seg er  $s_2$ :

$$s_2 = v_0 \cdot t_2 + \frac{1}{2} \cdot a \cdot t_2^2 = 0,0 \cdot 8,0 \text{ [s} \cdot \text{m/s]} + \frac{1}{2} \cdot 4,0 \cdot 8,0^2 \text{ [m/s}^2 \cdot \text{s}^2\text{]} = 128 \text{ [m]}$$