

1.312

$$v_{03} = \frac{s_3 - s_0}{t_3 - t_0} = \frac{4,0 \text{ cm}}{3,0 \text{ s}} = 1,25 \text{ cm/s} = 1,3 \text{ cm/s}$$

$$v_{35} = \frac{s_5 - s_3}{t_5 - t_3} = \frac{12,0 - 4,0}{5,0 \text{ s} - 3,0 \text{ s}} = \frac{8,0 \text{ cm}}{2,0 \text{ s}} = 4,0 \text{ cm/s}$$

$$v_{58} = \frac{s_8 - s_5}{t_8 - t_5} = \frac{12,0 - 12,0}{8,0 - 5,0 \text{ s}} = \frac{0,0}{3,0} = 0,0 \text{ cm/s}$$

$$v_{810} = \frac{s_{10} - s_8}{t_{10} - t_8} = \frac{10,0 - 12,0}{10,0 - 8,0} = \frac{-2,0}{2,0} = -1,0 \text{ cm/s}$$

$$1.313 \quad v = 72 \frac{\text{km}}{\text{h}} = 72 \frac{10^3 \text{ m}}{60 \cdot 60 \text{ s}} = 72 \frac{10^3}{3,6 \cdot 10^3} \frac{\text{m}}{\text{s}}$$

$$= 72 \cdot \frac{1}{3,6} \frac{\text{m}}{\text{s}} = 20 \frac{\text{m}}{\text{s}}$$

$$v = \frac{s}{t}$$

$$s = v \cdot t = 20 \left[\frac{\text{m}}{\text{s}} \right] \cdot 1,00 [\text{s}] = 20 [\text{m}]$$

1,314

$$v = 2,0 \cdot 10^7 \frac{\text{m}}{\text{s}} \quad s = 0,15 \text{ m}$$

$$t = \frac{s}{v} = \frac{0,15 \text{ m}}{2,0 \cdot 10^7 \frac{\text{m}}{\text{s}}} = 0,075 \cdot 10^{-7} \text{ s} = 7,5 \cdot 10^{-9} \text{ s}$$

$7,5 \cdot 10^{-2}$ $7,5 \cdot \text{ns}$

$$0,075 = 7,5 \cdot x$$

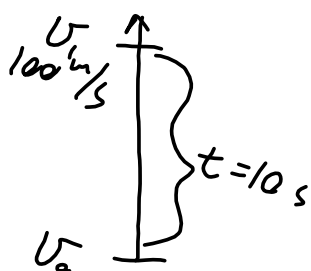
$$x = \frac{7,5}{0,075}$$

$$\frac{1}{x} = 100 = 10^2$$

$$x = 10^2$$

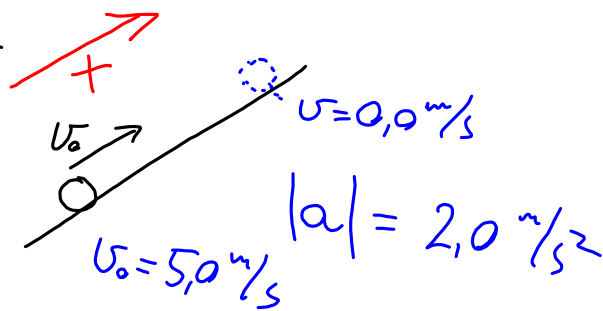
$$= \frac{7,5 \cdot 100}{0,075 \cdot 100} = \frac{75 \cdot 100}{7,5} = 100 = 10^2$$

1.322



$$a = \frac{\Delta v}{\Delta t} = \frac{v_1 - v_2}{10} = \frac{100}{10} = 10 \frac{m}{s^2}$$

1.332



a) $a = \frac{v - v_0}{t} = -$ minus akselerasjonen er negativ

b) $v_1 = v_0 + at = 5,0 \text{ m/s} - 2,0 \text{ m/s}^2 \cdot 1,0 \text{ s} = 3,0 \text{ m/s}$

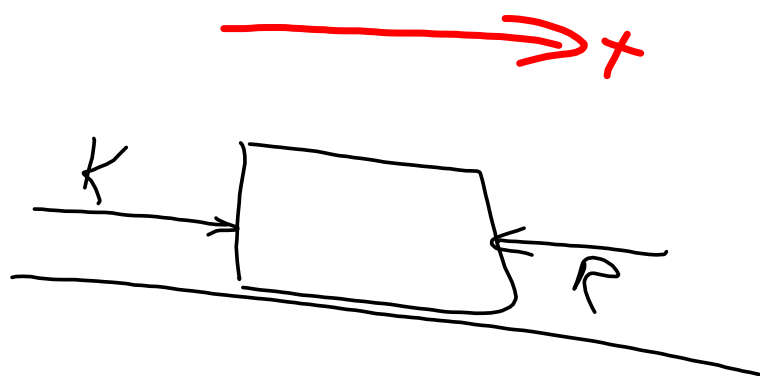
c) $v = v_0 + at = 0,0 = 5,0 - 2,0 \cdot t$
 \Downarrow
 $v_0 = -at$ $2,0t = 5,0$
 $t = -\frac{v_0}{a} = \frac{5,0}{-2,0} = 2,5 \text{ s}$

d) $s = \frac{v_0 + v}{2} \cdot t = \frac{5,0 + 0,0}{2} \cdot 2,5 = 6,25 \text{ m} = 6,3 \text{ m}$

e) $v = v_0 + at = 5,0 \text{ m/s} - 2,0 \text{ m/s}^2 \cdot 4,0 \text{ s} = -3,0 \text{ m/s}$
 $s = \frac{v_0 + v}{2} \cdot t = \frac{5,0 - 3,0}{2} \cdot 4,0 = 4,0 \text{ m}$

f) $v = v_0 + at = 5,0 - 2,0 \cdot 5,0 = -5,0 \text{ m/s}$
 $s = \frac{v_0 + v}{2} \cdot t = \frac{(5,0 - 5,0)}{2} \cdot 5,0 = 0,0 \text{ m}$

g) $s = v_0 \cdot t + \frac{1}{2} a t^2 = 5,0 \cdot 6,0 - \frac{1}{2} \cdot 2,0 \cdot 6,0^2 = 30,0 - 36,0 = -6,0 \text{ m}$



$$\sum F = K - R = m \cdot a$$
$$K = R$$

$\begin{matrix} \uparrow \\ 0 \\ 0 \end{matrix}$

