

2.14

$$a) \quad a = \frac{\Delta v}{\Delta t} = \frac{1,00 \left[\frac{m}{s} \right]}{4,00 \left[s \right]} = \underline{\underline{0,25 \left[\frac{m}{s^2} \right]}}$$

$$b) \quad \sum F = m \cdot a = 12 \left[kg \right] \cdot 0,25 \left[\frac{m}{s^2} \right] = 30 \left[N \right]$$

2.15



$$F = 600 \text{ [N]}$$

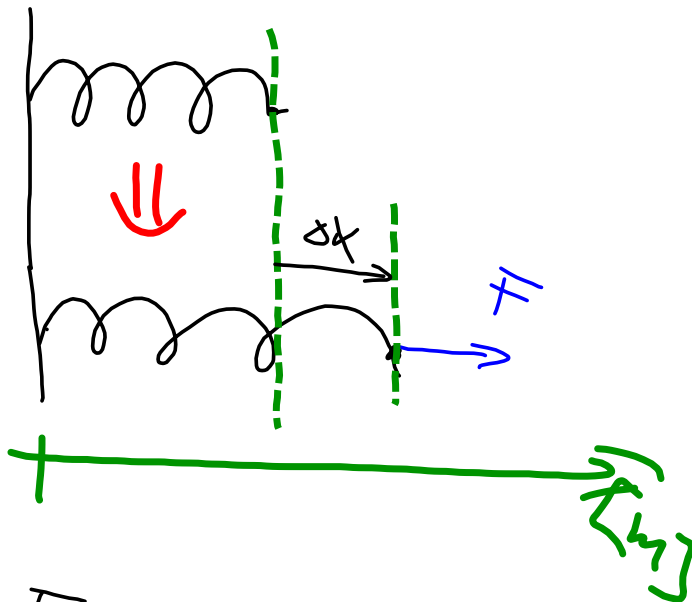
$$\sum F = 600 \text{ [N]} = m \cdot a$$

$$a) \quad a = \frac{\sum F}{m} = \frac{600 \text{ [N]}}{300 \text{ [kg]}} = 2,0 \frac{\text{[kg} \cdot \text{m/s}^2]}{\text{[kg]}} = 2,0 \text{ [m/s}^2]$$

$$b) \quad v = v_0 + at = 0,0 \text{ [m/s]} + 2,0 \text{ [m/s}^2] \cdot 8,0 \text{ [s]} \\ = 16,0 \text{ [m/s]}$$

$$c) \quad s = v_0 t + \frac{1}{2} a t^2 = 0,0 \text{ [m/s]} \cdot 8,0 \text{ [s]} + \frac{1}{2} \cdot 2,0 \text{ [m/s}^2] \cdot 8,0^2 \text{ [s}^2] \\ = 64,0 \text{ [m]}$$

Fjærkraft



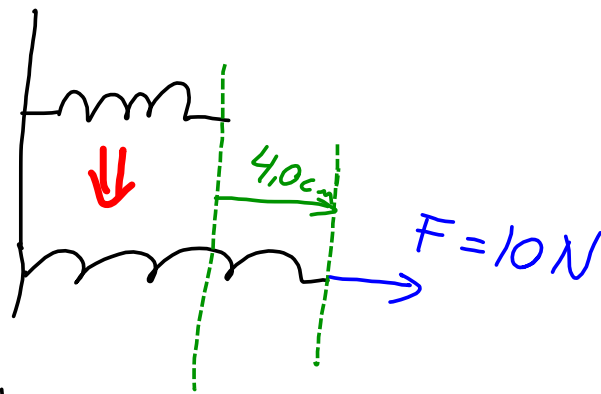
$$F = k \cdot \Delta x$$

k : Fjærstivhet

k :
↑ symbol for fjærstivheten
Benevnelse: $\left[\frac{N}{m} \right]$

2.21

a)



$$4,0[\text{cm}] = 0,04[\text{m}]$$

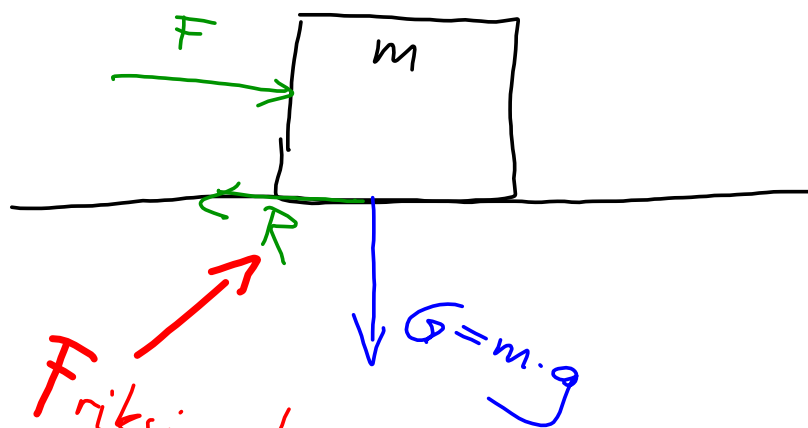
$$F = k \cdot x$$

$$k = \frac{F}{x} = \frac{10[\text{N}]}{0,04[\text{m}]} = 250 \left[\frac{\text{N}}{\text{m}} \right]$$

b)

$$x = \frac{F}{k} = \frac{15[\text{N}]}{250 \left[\frac{\text{N}}{\text{m}} \right]} = 0,06[\text{m}] = 6,0[\text{cm}]$$

Friksjon



Friksjonskraften

$$R = \mu G$$

Friksjonskoeffisienten