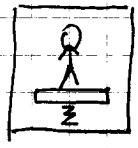
ZAD. 7.

Dane: Szukane:



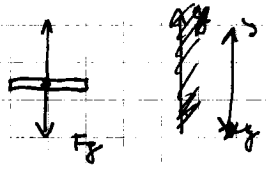
a) początkowo winda wskazuje 80kG

$1kG = 9{,}81 \frac{m}{s^2} \cdot 1kg \approx 10N$

czyli ciężar człowieka

$F_g = 800\ N = mg \quad \Rightarrow \quad m = \frac{800N}{10 \frac{m}{s^2}} = 80kg$

b)



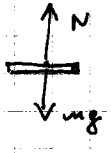
$ma = -F_g + N \qquad N = 600\ N$

$a = \frac{-800 + 600}{80} = \frac{-200}{80} = -2{,}5 \frac{m}{s^2}$

ponieważ $a < 0$ to winda porusza się w dół

Droga jaką przebędzie $s_1 = \frac{at^2}{2} = \frac{-2{,}5 \cdot 2^2}{2} = -5\ m$

c)



$a = 0$

$ma_2 = N - F_g \quad , \quad N = 800N$

$a = \frac{800 - 800}{80} = 0 \frac{m}{s^2}$, $s_2 = v_1 t$

nie podstawiamy

d)

$ma_3 = N - F_g \quad , \quad N = 1200\ N$

$a_3 = \frac{1200 - 800}{80} = \frac{40}{8} = \frac{1}{2} \frac{m}{s^2}$

a ↑

$s_3 = \frac{at^2}{2} = \frac{1}{2} \cdot 1 = 0{,}5\ m = v_2 \cdot t +$

e)

$ma_4 = N - F_g$

$a_4 =$