Lista 4 - Układy cięgnowe

czwartek, 29 lutego 2024 09:55

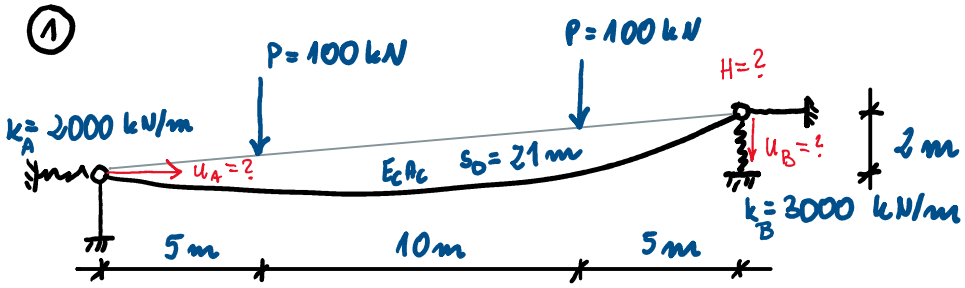
$E = 210\ [GPa]$ $E_c = 130\ [GPa]$

$I = 3{,}144 \cdot 10^{-5}\ [m^4]$ $A_c = 19{,}635\ [cm^2]$

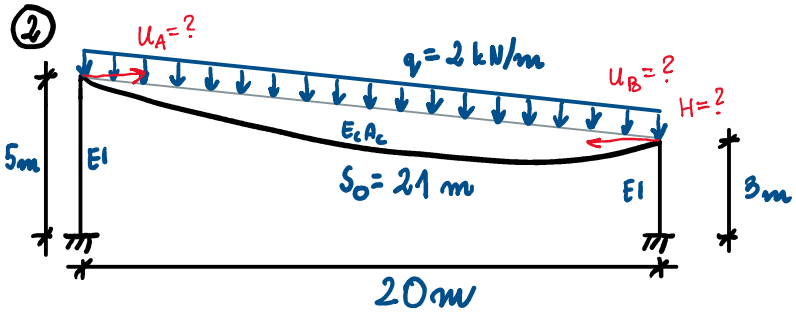
$\alpha = 12 \cdot 10^{-6}\ [1/°C]$

Dane: s_0, E_c, A_c, E, I, f_i

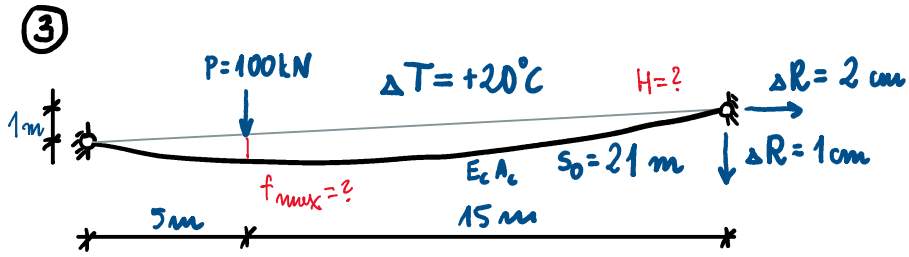
Szukane: H, u_i, f_{max}

① 

$H = 218{,}6277\ [kN]$
$u_A = 0{,}109264\ [m]$
$u_B = 0{,}040508\ [m]$

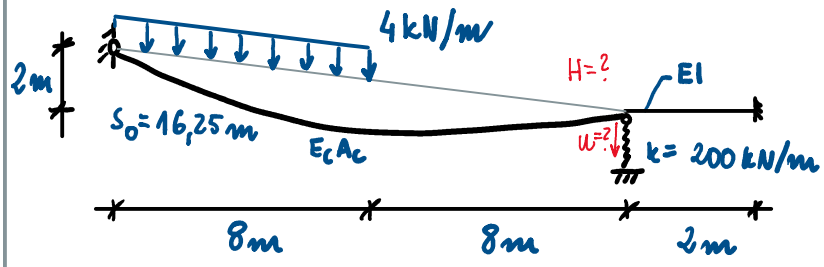
② 

$H = 33{,}79432\ [kN]$
$u_A = 0{,}21327\ [m]$
$u_B = 0{,}046066\ [m]$

③ 

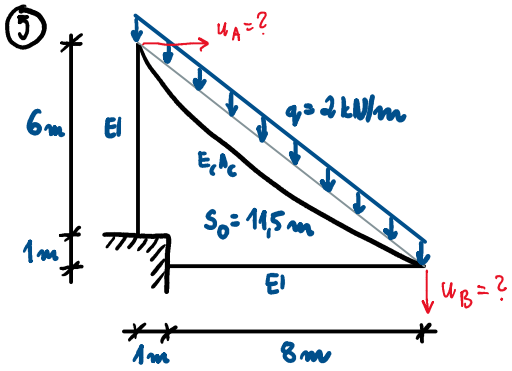
$H = 138{,}5967\ [kN]$

$f_{max} = 2{,}7057\ [m]$

④ 

$H = 80{,}46418\ [kN]$

$u = -0{,}000744\ [m]$

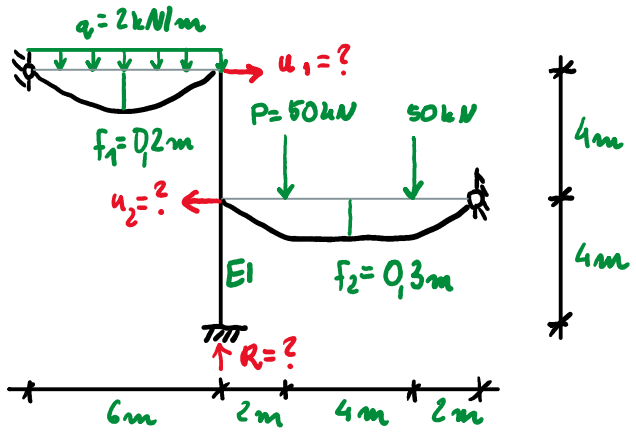
⑤ 

$H = 17{,}889\ [kN]$

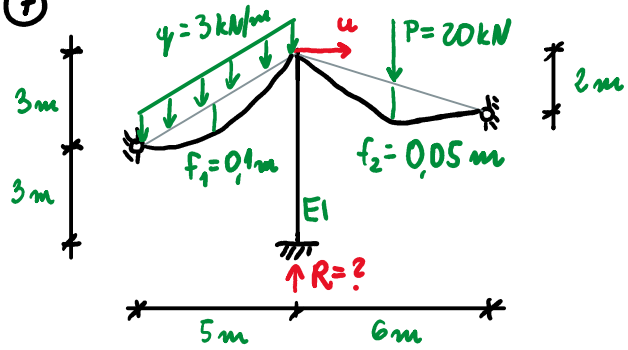
$u_A = 0{,}1951\ [m]$

$u_B = -0{,}0693\ [m]$

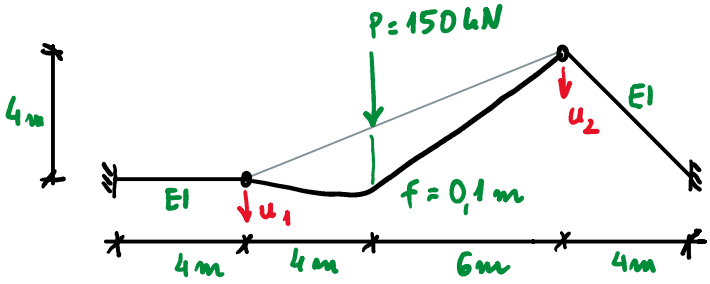
6


q = 2 kN/m
u1 = ?
P = 50 kN
50 kN
f1 = 0,2 m
u2 = ?
4 m
4 m
EI
f2 = 0,3 m
R = ?
6 m
2 m
4 m
2 m

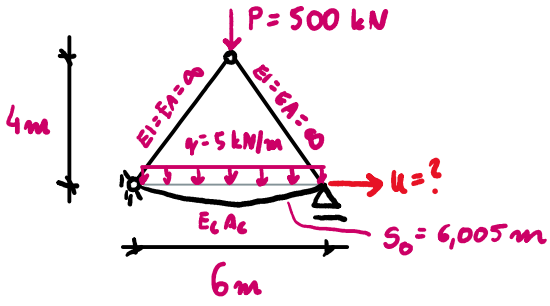
7


q = 3 kN/m
u
P = 20 kN
2 m
3 m
3 m
f1 = 0,1 m
f2 = 0,05 m
EI
R = ?
5 m
6 m

8


P = 150 kN
4 m
EI
u2
EI
f = 0,1 m
u1
4 m
4 m
6 m
4 m

9*


P = 500 kN
4 m
EI = EA = ∞
EI = EA = ∞
q = 5 kN/m
u = ?
EcAc
S0 = 6,005 m
6 m