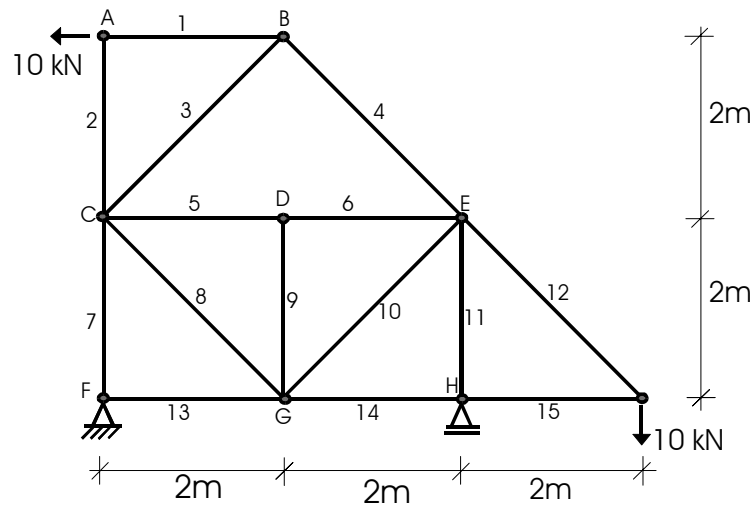


Nº USP: \_\_\_\_\_ Nome: \_\_\_\_\_

**Questão 2 (3,0)**

Para a treliça da figura, pedem-se:

- As reações de apoio;
- As forças normais  $N_2$ ,  $N_3$  e  $N_4$ , pelo método de Ritter;
- As forças normais  $N_5$ ,  $N_7$  e  $N_8$ , pelo método do equilíbrio dos nós.

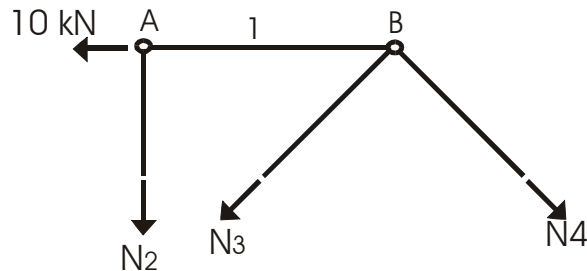


a)  $\sum M_F = 0 \Rightarrow V_F = 5kN$

$\sum V = 0 \Rightarrow V_F = 5kN$

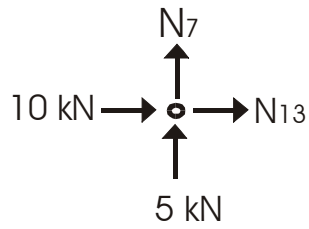
$\sum H = 0 \Rightarrow H_F = 10kN$

b)



$$\begin{aligned} \sum M_B = 0 & \Rightarrow \boxed{N_2 = 0} \\ \sum M_C = 0 & \Rightarrow \boxed{N_4 = 5\sqrt{2}kN} \\ \sum V = 0 & \Rightarrow \boxed{N_3 = -5\sqrt{2}kN} \end{aligned} \quad (1.0)$$

c) Nó F:  $\boxed{N_7 = -5kN}$  (1.0)



Nó C:

$$\begin{aligned} \sum V = 0 & \Rightarrow \boxed{N_8 = 0} \\ \sum H = 0 & \Rightarrow \boxed{N_5 = 5kN} \end{aligned} \quad (1.0)$$

