

The truss shown in the figure, where all members measure 2 m, is loaded by a uniform continuous load of q = 4 kN/m in bar 1. Find the correct choice for the next questions.



- 1. Global degree of static indeterminacy.
 - a) DSI = 1
 - b) DSI = 0
 - c) DSI = -1
 - d) DSI =2
- 2. The system of forces in member 4 can be replaced by two forces located in the nodes:
 - a) 2 kN in A and 2 kN in B
 - a) 1 kN in A and -1 kN in B
 - b) 4 kN in A and 4 kN in B
 - c) 4 kN in A and -2 kN in B

From this point till the end of the exercise, remove the vertical reaction force VA



- 3. Which of the next elements cannot be removed in order to obtain a statically determined structure?
 - a) Ha
 - b) H_b
 - c) Bar #3
 - b) Bar #4
- 4. Horizontal reactions H_a and H_b.
 - a) Ha = -2 kN; Hb = -6 kN
 - b) $H_a = -4 \text{ kN}$; $H_b = -4 \text{ kN}$
 - c) $H_a = -5 \text{ kN}$; $H_b = -3 \text{ kN}$
 - d) $H_a = -8 \text{ kN}$; $H_b = 0 \text{ kN}$
- 5. For the statically determined structure of the previous question, which of the members are not loaded?
 - a) Bars 9 and 5
 - b) Bars 5 and 2
 - c) Bars 9 and 3
 - d) Bars 4 and 5
- 6. Apply the method of the nodes at point A. Normal forces of bar 6 and 7 are:
 - a) $N_6 = 2 \text{ kN}$ (T); $N_7 = 2\sqrt{2} \text{ kN}$ (C)
 - b) $N_6 = 2\sqrt{2} kN$ (C); $N_7 = 2 kN$ (T)
 - c) $N_6 = 2 \text{ kN}$ (C); $N_7 = 2\sqrt{2} \text{ kN}$ (T)
 - d) $N_6 = 2\sqrt{2} kN (T); N_7 = 2 kN (C)$
- 7. Draw the force laws diagrams