Pregunta **1**

No s'ha respost encara

Puntuat sobre 10,00

Consider a prismatic 3D bar structure made up of two equilateral triangles of side length $l = 2755mm$, on the basis and on the top, and height $h = 3414mm$, as showed in the figure. We mesh the structure with nodes and elements as presented there. Suppose that Young modulus in each bar is $E = 150000N/mm^2$ and its sections have area $A = 250mm^2$. We consider all the nodes are fixed except the node 5 where a force $P = (30000, 30000, -30000)N$ is loaded. Answer the following questions:
(a) (3 points) The value of K^3_{42} is

- Leave it empty (no penalty)
- -8.0123e+03
- -5.8940e+03
- -7.7223e+03
- -1.9169e+03

Hint1: The value of K^3_{22} is 1.020871e+04
(b) (4 points) The absolute value of the y-displacement of the node 5 is

- Leave it empty (no penalty)
- 9.4934e+00
- 4.9458e+00
- 1.1771e+00
- 4.9296e+00

Hint2: The absolute value of the z-displacement is 2.7312e+00
(c) (3 points) Now consider that, except the three elements of the basis, the rest of the elements change its section area to $A = 150mm^2$. Then the absolute value of the y-displacement of the node 5 is

- 9.6488e+00
- 8.2430e+00
- 3.6898e+00
- 5.6116e+00
- Leave it empty (no penalty)

Hint3: The absolute value of the x-displacement is 5.7941e+00

Torna a començar | Desa | Emplena amb les respostes correctes | Envia i acaba | Tanca la previsualització

Informació tècnica

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Expandeix-ho tot

Opcions de l'intent

Opcions de visualització