ANSWERS - VOLUME2: STRESSES, STRAINS, DISPLACEMENTS

Chapter 7, Deformation of Trusses

problem 7.061, page 538

Remarks: See § 7.4, pages 514 to 520

Answer

a)

Member	Force(kN)	$\Delta L (\text{mm})$
1	$15\sqrt{2}$	3
2	-15	$-1.5\sqrt{2}$
3	15	$1.5\sqrt{2}$
4	15	$1.5\sqrt{2}$
5	$-15\sqrt{2}$	-3

b)

Joint	$u_{x}(mm)$	u_y (mm)
A	0	0
В	-0.75	-0.75
C	3	-7.5
D	2.25	-5.25

Assuming the direction of AD is fixed and removing the support at B:

Joint	$u_x(mm)$	u_y (mm)
A	0	0
В	-4.5	10.5
С	3	0
D	-1.5	-1.5

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