

Remarks: See § 7.3, pages 504 to 513

Answer

a)

Member	Sign	$\Delta L$ (mm)
1	-	-2
2	0	0
3	+	2
4	-	$-2\sqrt{2}$
5	0	0

Assuming the direction of BC is fixed:

Joint	$u_x$ (mm)	$u_y$ (mm)
A	4	0
B	0	0
C	2	-2
D	0	-4

b) The truss should be rotation  $1.333 \cdot 10^{-3}$  radians anti-clockwise

$$\left( \frac{4 \cdot 10^{-3}}{3} \right)$$

Joint	$u_x$ (mm)	$u_y$ (mm)
A	-4	-8
B	0	0
C	-4	-4
D	0	-4

c) Combined displacements:

Joint	$u_x$ (mm)	$u_y$ (mm)
A	0	-8
B	0	0
C	-2	-6
D	0	-8