Remarks: See § 7.3, pages 504 to 513

Answer

a)

Member	Sign	ΔL (mm)
1	-	-6
2	-	$-6\sqrt{2}$
3	+	6
4	-	$-6\sqrt{2}$
5	+	6
6	-	-2

Assuming the direction of AB is fixed and removing the support at E:

Joint	u_x (mm)	u_y (mm)
A	0	0
B	0	-6
C	6	-12
D	-6	-18
E	8	16/3

b) The truss should be rotated $0.666 \cdot 10^{-3}$ radians anti-clockwise ($\frac{8 \cdot 10^{-3}}{12}$)

Joint	u_x (mm)	u_y (mm)
A	0	0
B	-4	0
C	-8	-4
D	-4	-4
E	-8	16/3

c) Combined displacements:

Joint	u_x (mm)	u_y (mm)
A	0	0
B	-4	-6
C	-2	-16
D	-10	-22
E	0	0

Work out:

a) Scale: 1 square = 1mm