

Remarks: See § 7.3, pages 504 to 513

Answer

a)

Member	Sign	ΔL (mm)
1	-	-4
2	0	0
3	-	$-2\sqrt{2}$
4	+	$2\sqrt{2}$
5	+	2
6	+	2
7	-	-2
8	-	$-2\sqrt{2}$

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

Joint	u_x (mm)	u_y (mm)
A	0	0
B	0	-10
C	0	-14
D	4	-16
E	-2	-6
G	0	0

b) The truss should be rotated $1.666 \cdot 10^{-3}$ radians clockwise ($\frac{10 \cdot 10^{-3}}{6}$)

Joint	u_x (mm)	u_y (mm)
A	0	0
B	0	10
C	10/3	20/3
D	0	20/3
E	10/3	10/3
G	10/3	0

c) Combined displacements:

Joint	u_x (mm)	u_y (mm)
A	0	0
B	0	0
C	10/3	-22/3
D	4	-28/3
E	4/3	8/3
G	10/3	0