Remarks: Zie §5.6, blz. 184 till 186

Antwoorden: All forces in kN

The normal force in a bar positive as a tensile force, and negative as a compressive force.

Attention: AS and BS aren't two-force members

1a. $A_h = 0\,;\ A_v = 20\ (\uparrow)\,;\ B_v = 40\ (\uparrow)$

1b. $N^{(a)} = +10\sqrt{5} = +22,36$

$N^{(b)} = +10\sqrt{2} = +14,14$

$N^{(c)} = +30$

$N^{(d)} = +50\sqrt{2} = +70,71$

$N^{(e)} = -10\sqrt{5} = -22,36$

2a. $A_h = 0\,;\ A_v = 30\ (\uparrow)\,;\ B_v = 30\ (\uparrow)$

2b. $N^{(a)} = N^{(e)} = +15\sqrt{5} = +33,54$

$N^{(b)} = N^{(d)} = +15\sqrt{2} = +21,21$

$N^{(c)} = +45$

3a. $A_h = 0\,;\ A_v = 50\ (\uparrow)\,;\ B_v = 10\ (\uparrow)$

3b. $N^{(a)} = N^{(e)} = +5\sqrt{5} = +11,18$

$N^{(b)} = N^{(d)} = +5\sqrt{2} = +7,07$

$N^{(c)} = +15$

4a. $A_h = 60\ (\leftarrow)\,;\ A_v = 30\ (\downarrow)\,;\ B_v = 30\ (\uparrow)$

4b. $N^{(a)} = N^{(e)} = +15\sqrt{5} = +33,54$

$N^{(b)} = N^{(d)} = +15\sqrt{2} = +21,21$

$N^{(c)} = +45$

5a. $A_h = 60\ (\leftarrow)\,;\ A_v = 20\ (\downarrow)\,;\ B_v = 20\ (\uparrow)$

5b. $N^{(a)} = N^{(e)} = +10\sqrt{5} = +22,36$

$N^{(b)} = N^{(d)} = +10\sqrt{2} = +14,14$

$N^{(c)} = +30$

6a. $A_h = 60\ (\leftarrow)\,;\ A_v = 20\ (\downarrow)\,;\ B_v = 20\ (\downarrow)$

6b. $N^{(a)} = N^{(e)} = +20\sqrt{5} = +44,72$

$N^{(b)} = N^{(d)} = +20\sqrt{2} = +28,28$

$N^{(c)} = +60$