Remarks: See §5.7, page 186 till 189

Answers: All forces in kN and moments in kNm

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

1a. $A_h = 0$; $A_v = 15\ (\uparrow)$; $B_v = 5\ (\downarrow)$
$C_h = 20\ (\rightarrow)$; $D_h = 20\ (\leftarrow)$; $C_v = D_v = 15\ (\uparrow)$

1b. $N^{(a)} = -25$
$N^{(b)} = -10$
$N^{(c)} = -5\sqrt{17} = -20,62$
$N^{(d)} = -10$

2a. $A_h = 0$; $A_v = 14\ (\uparrow)$; $B_v = 6\ (\downarrow)$
$C_h = 16\ (\rightarrow)$; $D_h = 16\ (\leftarrow)$; $C_v = D_v = 16\ (\uparrow)$

2b. $N^{(a)} = -16\sqrt{2} = -22,63$
$N^{(b)} = -12$
$N^{(c)} = -4\sqrt{17} = -16,49$
$N^{(d)} = -8$

3a. $A_h = 0$; $A_v = 20\ (\uparrow)$; $B_v = 0$
$C_h = 80\ (\rightarrow)$; $D_h = 80\ (\leftarrow)$; $C_v = D_v = 60\ (\uparrow)$

3b. $N^{(a)} = -100$
$N^{(b)} = -40$
$N^{(c)} = -20\sqrt{17} = -82,46$
$N^{(d)} = -40$

4a. $A_h = 0$; $A_v = 16\ (\uparrow)$; $B_v = 4\ (\downarrow)$
$C_h = 64\ (\rightarrow)$; $D_h = 64\ (\leftarrow)$; $C_v = D_v = 64\ (\uparrow)$

4b. $N^{(a)} = -64\sqrt{2} = -90,51$
$N^{(b)} = -48$
$N^{(c)} = -16\sqrt{17} = -65,97$
$N^{(d)} = -32$