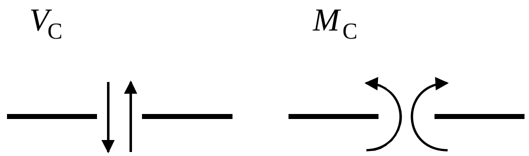
Remarks: See §5.1, page 154 till 162
And the examples 4 and 5 on page 160 and 161

Hints:

When the support reactions are calculated the interaction forces in C can be found when you free the left or right part. There are three kinds of interaction forces working between rigidly connected parts.

- Forces in line with the beam. Out of the horizontal equilibrium it follows that these forces are zero in each of the cases.
- Forces perpendicular to the beam , called V_C
- A moment, called M_C

for V_C and M_C *we've defined positive directions*:



Answers:

1a. $A_h = 0$; $A_v = 5$ kN (↑); $B_v = 7$ kN (↓)
1b. $V_C = +6$ kN; $M_C = -9$ kNm

2a. $A_h = 0$; $A_v = 10$ kN (↑); $B_v = 4$ kN (↓)
2b. $V_C = 0$; $M_C = +12$ kNm

3a. $A_h = 0$; $A_v = 5$ kN (↑); $B_v = 4$ kN (↑)
3b. $V_C = 0$; $M_C = +6$ kNm

4a. $A_h = 0$; $A_v = 14$ kN (↑); $B_v = 7$ kN (↑)
4b. $V_C = +1$ kN; $M_C = +11$ kNm

5a. $A_h = 0$; $A_v = 6$ kN (↑); $B_v = 3$ kN (↓)
5b. $V_C = +3$ kN; $M_C = -5$ kNm

6a. $A_h = A_v = 0$; $B_v = 2$ kN (↑)
6b. $V_C = +4$ kN; $M_C = +12$ kNm

7a. $A_h = A_v = 0$; $B_v = 12$ kN (↑)
7b. $V_C = -6$ kN; $M_C = -18$ kNm

8a. $A_h = 0$; $A_v = 3$ kN (↑); $B_v = 24$ kN (↑)
8b. $V_C = +9$ kN; $M_C = -30$ kNm