Remarks: See §5.1, page 154 till 162

Hints:

The horizontal support reaction in C follows directly from horizontal equilibrium. From the angle of the bar support in C you can find the vertical support reaction in C. The moment equilibrium about A or B gives you vertical support reactions in A and B

Answers:

1b. $A_{\text{v}} = 4\text{ kN }(\uparrow)$
$B_{\text{v}} = 8\text{ kN }(\uparrow)$
$C_{\text{h}} = 9\text{ kN }(\leftarrow)$; $C_{\text{v}} = 12\text{ kN }(\downarrow)$

1d. There're three forces working on beam AB. The lines of action of the three forces should go through one point, point C in this case. Secondly there should be a closed force polygon.

2b. $A_{\text{v}} = 6\text{ kN }(\uparrow)$;
$B_{\text{v}} = 6\text{ kN }(\uparrow)$
$C_{\text{h}} = 9\text{ kN }(\leftarrow)$; $C_{\text{v}} = 12\text{ kN }(\downarrow)$

2d. There're three forces working on beam AB. The lines of action of the three forces should go through one point. Secondly there should be a closed force polygon.

3b. $A_{\text{v}} = 8\text{ kN }(\uparrow)$;
$B_{\text{v}} = 4\text{ kN }(\uparrow)$
$C_{\text{h}} = C_{\text{v}} = 0$

3d.A graphic check of the moment equilibrium isn't possible because all forces work in the same direction. Using a force polygon is possible.

4b. $A_{\text{v}} = 9\text{ kN }(\uparrow)$;
$B_{\text{v}} = 3\text{ kN }(\uparrow)$
$C_{\text{h}} = C_{\text{v}} = 0$

4d. Same answer as 3d

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