## **ANSWERS - VOLUME 1: EQUILIBRIUM**

Remarks: See §5.1, page 154 till 162

And the examples 2 on page 155 and §3.2 page 78

## Answers:

- a. Because AC is a two-force member the line of action of the support reaction in A is along AC. Three forces are working on body BCD. There's a moment equilibrium only when these three forces intersect in one single point. The line of action of the support reaction in B has to go through this point. The directions of forces in A and B are now known. Their size follows from a force polygon.
- b. The moment equilibrium around B gives us  $A_{\rm h}$ . With the direction of the two-force member AC you can find  $A_{\rm v}$ . The support reactions in B follow from horizontal and vertical equilibrium.

$$A_{\rm h} = 2F \ (\leftarrow); \ A_{\rm v} = 2F \ (\uparrow)$$
  
 $B_{\rm h} = 2F \ (\rightarrow); \ B_{\rm v} = F \ (\downarrow)$ 

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