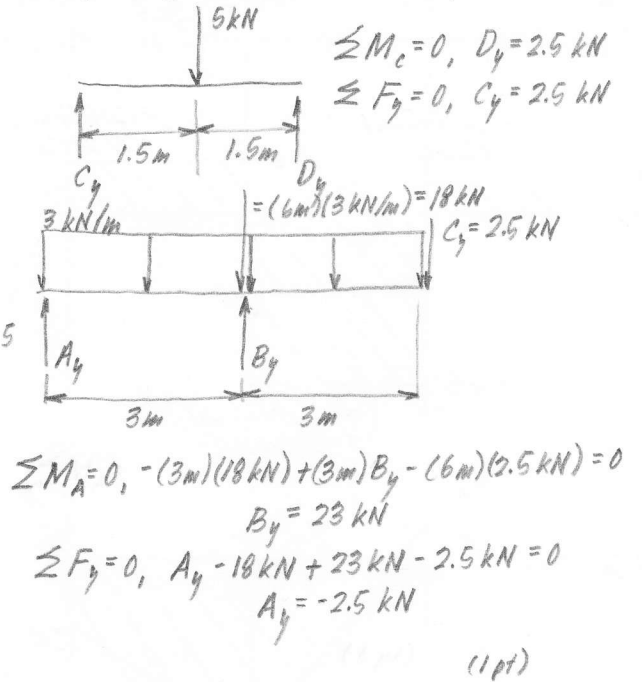
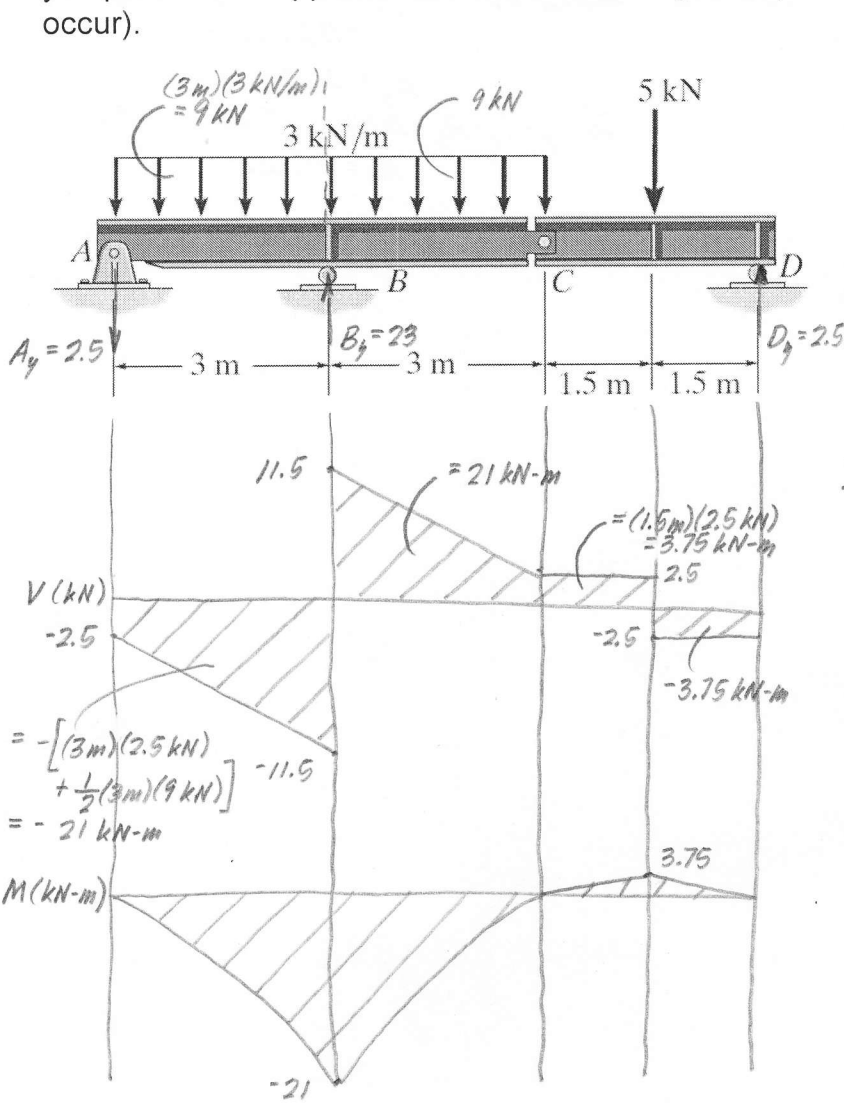


Tech ID or Star ID: Grading

Do one of the two problems shown below (the second problem is on the back).
Show your work (you will not receive any credit if all you have is a final answer, right or wrong).

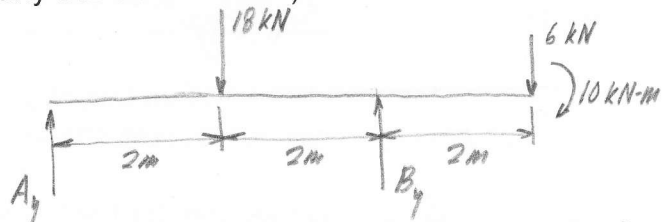
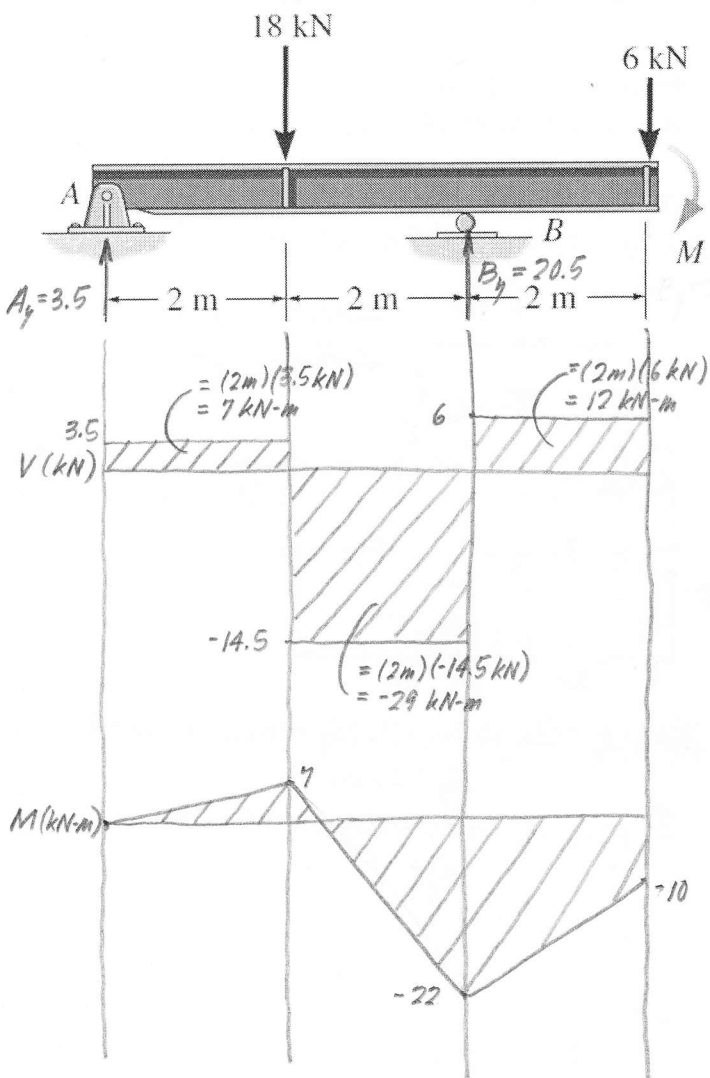
(1) Draw the shear and moment diagrams for the compound beam (pin connected at C). Make sure you provide the applicable values on the diagrams (at the beginning/end and where any transitions occur).



V: -2.5 slope 11.5 slope 2.5 slope -2.5 slope

M: 0 slope -21 slope 0 slope 3.75 slope 0

(2) Draw the shear and moment diagrams for the beam. Make sure you provide the applicable values on the diagrams (at the beginning/end and where any transitions occur).



$$\sum M_A = 0, - (2\text{ m})(18\text{ kN}) + (4\text{ m})B_y - (6\text{ m})(6\text{ kN}) - 10\text{ kN}\cdot\text{m} = 0$$

$$B_y = 20.5\text{ kN}$$

$$\sum F_y = 0, A_y - 18\text{ kN} + 20.5\text{ kN} - 6\text{ kN} = 0$$

$$A_y = 3.5\text{ kN}$$

(1 pt)

V: 3.5 slope -14.5 slope 6 slope
M: 0 slope 7 slope -22 slope -10