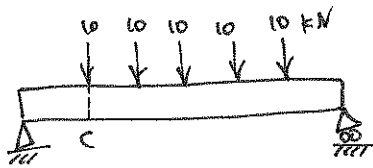
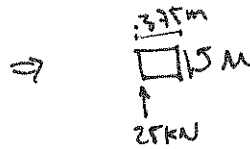
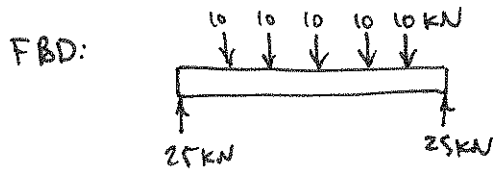


12.17. SOLUTION



S200 x 27.4

Find max normal stress at c.



$$\sum M_{cut} = 0 \Rightarrow M = 25 \text{ kN} (0.375 \text{ m})$$

$$M = \underline{9.375 \text{ kNm}}$$

Max σ occurs at top + bottom:

$$\sigma = -\frac{My}{I} = \frac{(9.375 \text{ kNm}) \left(\frac{203 \text{ mm}}{2} \right)}{(23.9 \text{ mm}^4 10^6) \left(\frac{10^{-6} \text{ m}^4}{10^6 \text{ mm}^4} \right)} = \boxed{39.8 \text{ MPa}}$$

* y, I from ~~table~~ Appendix B, pg. 685.