Remarks: See § 4.4, pages 168 till 170

## **Answers:**

a. 
$$\sigma_{(z=+180 \text{ mm})} = +1 \text{ N/mm}^2$$

b. 
$$\sigma_{(z=-120 \text{ mm})} = -9 \text{ N/mm}^2$$

c. see figure

d. 
$$z_{na} = +150 \text{ mm}$$

## **Explanation:**

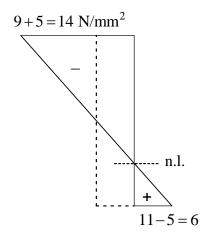
The normal centre is located 270 mm from the top side of the cross-section.

$$A = 450 \times 10^3 \text{ mm}^2$$
  
 $\sigma^{(N)} = -5 \text{ N/mm}^2$ 

$$I_{zz} = 13,095 \times 10^9 \text{ mm}^4$$

$$\sigma_{\rm b}^{(M)} = -9 \text{ N/mm}^2$$

$$\sigma_{\rm o}^{(M)} = +11 \text{ N/mm}^2$$



Last update: 22-10-07