

[Remarks:](#) See §6.1, pages 412 till 415

[Answers:](#)

a. $G = 1,5 \text{ MPa}$

b. $7,5 \text{ mm}$

[Explanation:](#)

a. $\gamma = \frac{7,5 \text{ mm}}{50 \text{ mm}} = 0,15;$

$$\tau = \frac{7200 \text{ N}}{(160 \text{ mm})(200 \text{ mm})} = 0,225 \text{ N/mm}^2$$

$$G = \frac{\tau}{\gamma} = \frac{0,225 \text{ N/mm}^2}{0,15} = 1,5 \text{ N/mm}^2$$

b. $\gamma h = \frac{\tau}{G} h$

The shear stress is still $\tau = 0,225 \text{ N/mm}^2$ with G and h unchanged. This leads to the same displacement of $7,5 \text{ mm}$.