

[Remarks:](#) See §3.2.4 , example 5, pages. 109 till 113

See §4.9, pages. 203 till 208

[Answers:](#)

a. $W_{z;b} = \frac{1}{12}bh^2$

b. $W_{z;t} = \frac{1}{24}bh^2$

c. $k_t = \frac{1}{6}h$

d. $k_b = \frac{1}{12}h$

[Explanation:](#)

$$I_{zz} = \frac{1}{36}bh^2$$

a. $W_{z;b} = \frac{I_{zz}}{e_b} = \frac{\frac{1}{36}bh^2}{\frac{1}{3}h} = \frac{1}{12}bh^2$

b. $W_{z;t} = \frac{I_{zz}}{e_t} = \frac{\frac{1}{36}bh^2}{\frac{2}{3}h} = \frac{1}{24}bh^2$

c. $k_t = \frac{W_{z;b}}{A} = \frac{\frac{1}{12}bh^2}{\frac{1}{2}bh} = \frac{1}{6}h$

d. $k_b = \frac{W_{z;t}}{A} = \frac{\frac{1}{24}bh^2}{\frac{1}{2}bh} = \frac{1}{12}h$