

材料力学 2022年

$$[1] (1) R + T_a + T_b = P$$

$$T_a \cdot a + T_b \cdot b = P \cdot c$$

$$(2) \sigma_a = \frac{ac E_a l_b}{a^2 S_a E_a l_b + b^2 S_b E_b l_a} P$$

$$\sigma_b = \frac{bc E_b l_a}{a^2 S_a E_a l_b + b^2 S_b E_b l_a} P$$

$$(3) \frac{1}{4} \text{ 倍}$$

$$(\sigma_a = \frac{1}{4} \sigma_b)$$

$$[2] (1) M_{Ac} = R_A x$$

$$M_{cB} = R_A x + M_c$$

$$V_{Ac} = \frac{-R_A x^3 + 3 \{ R_A l^2 + 2 M_c (l - a) \} x}{6EI}$$

$$V_{cB} = \frac{-R_A x^3 - 3 M_c x^2 + 3 (R_A l + 2 M_c) l x - (2 R_A l + 3 M_c) l^2}{6EI}$$

$$(2) R_A = \frac{3 M_c}{2 l^3} (a^2 - l^2)$$