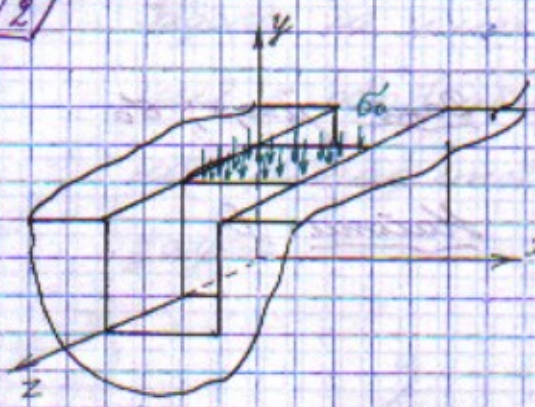
2



Дано: $\mu = 0{,}3$; σ_0

Найти: θ

Решение

$$\varepsilon_x = \frac{\sigma_x}{E} - \mu\frac{\sigma_y}{E} - \mu\frac{\sigma_z}{E}$$

$$\varepsilon_y = \frac{\sigma_y}{E} - \mu\frac{\sigma_z}{E} - \mu\frac{\sigma_x}{E}$$

$$\varepsilon_z = \frac{\sigma_z}{E} - \mu\frac{\sigma_x}{E} - \mu\frac{\sigma_y}{E}$$

$$\gamma_{xy} = \gamma_{yz} = \gamma_{zx} = 0$$

$$0 = \frac{\sigma_x}{E} + \mu\frac{\sigma_0}{E}$$

$$\varepsilon_y = -\frac{\sigma_0}{E} - \mu\frac{\sigma_x}{E}$$

$$\varepsilon_z = -\mu\frac{\sigma_x}{E} + \mu\frac{\sigma_0}{E}$$

$$\varepsilon_y = \frac{\sigma_0}{E}(\mu^2 - 1)$$

$$\varepsilon_z = \frac{\sigma_0}{E}(\mu + \mu^2)$$

$$\theta = \varepsilon_x + \varepsilon_y + \varepsilon_z =$$

$$= 0 + \frac{\sigma_0}{E}(2\mu^2 + \mu - 1) = -0{,}52\,\frac{\sigma_0}{E}$$