$\bar{S} = \begin{bmatrix} 3xy & 5y^2 & 0 \\ 5y^2 & 0 & 2z \\ 0 & 2z & 0 \end{bmatrix}$ Silinder $x^2 + z^2 = 4$ ehk $\Phi = x^2 + z^2 - 4 = 0$

silindri normaal : $\bar{\nu}^* = \operatorname{grad} \Phi = \ldots = (0, 2y, 2z)$

ühiknormaal $\bar{\nu} = \bar{\nu}^* / |\bar{\nu}^*|$; $|\bar{\nu}^*| = 2\sqrt{y^2 + z^2}$

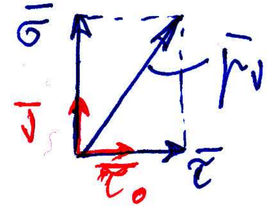
Pinge pinnal normaaliga $\bar{\nu}$: $\bar{p}_\nu = \bar{\nu} \cdot \bar{S}$ /võrdle valem (2.14)/

*) Punkt $P = (2, 1, \sqrt{3}) \rightarrow \bar{\nu}^* = (0, 2, 2\sqrt{3}) \rightarrow |\bar{\nu}^*| = 4 \Rightarrow \bar{\nu} = (0, 1/2, \sqrt{3}/2)$

$\bar{S} = \begin{bmatrix} 6 & 5 & 0 \\ 5 & 0 & 2\sqrt{3} \\ 0 & 2\sqrt{3} & 0 \end{bmatrix}$ $\bar{p}_\nu = (2{,}5; 3; \sqrt{3})$; $|\bar{p}_\nu| = 4{,}272$

$\sigma_\nu = \bar{p}_\nu \cdot \bar{\nu} = 3$ s.o. $\bar{p}_\nu$ projektsioon normaali $\bar{\nu}$ suhtes

Normaalpinge $\bar{\sigma} = \sigma_\nu \bar{\nu}$, vastav moodul $\sigma = |\bar{\sigma}| = |\sigma_\nu|$



Vtl. juhul $\bar{\sigma} = 3 \cdot (0; 1/2; \sqrt{3}/2)$ ja $\sigma = 3$

Nihkepinge $\bar{\tau} = \bar{p}_\nu - \bar{\sigma} = (2{,}5; 3; \sqrt{3}) - 3 \cdot (0; 1/2; \sqrt{3}/2) = \ldots = \left(2{,}5; 1{,}5; -\frac{\sqrt{3}}{2}\right)$

vastav moodul $|\bar{\tau}| = \sqrt{p_\nu^2 - \sigma^2} = \sqrt{\tau_x^2 + \tau_y^2 + \tau_z^2} = 3{,}04$