№3.1

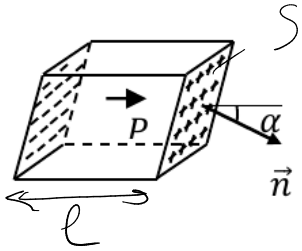
Дано: p, α

Найти: σ – ?

1) $\bar{p} = \frac{1}{V} \sum \bar{p}_i \Rightarrow p' = Vp$

$p' = \sigma \cdot S\ell$

$\Rightarrow$



$\Rightarrow \sigma = \frac{Vp}{S\ell} = p\cos\alpha$ / ОТВЕТ

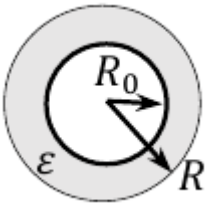
№3.2

Дано: R_0, q, R, ε

Найти: q – ?

1) $q - q_\infty = q - 0 = \int_{R_0}^{\infty} \vec{E} d\vec{r} =$

$= \int_{R_0}^{R} \frac{q\,dr}{\varepsilon r^2} + \int_{R}^{\infty} \frac{q\,dr}{r^2} = \frac{q}{\varepsilon}\left(\frac{1}{R_0} - \frac{1}{R}\right) +$



$+ \frac{q}{R} = \frac{q}{R}\left(1 + \frac{R - R_0}{\varepsilon R_0}\right)$ / ОТВЕТ