

## Physics 2MM Physweb 3 Reference

1.  $\Delta\phi = 2\pi\sigma_1 \cdot b$
2.  $\Delta\phi = 2\pi(\sigma_1 b + \sigma_2 a)$
3.  $V_{init} = \sqrt{\frac{4\pi\lambda Q}{m}}$
4.  $\phi(0, 0) = 2\lambda_0$
5.  $\phi(r) = -2\pi\rho\left(\frac{d^2}{4}\right) - 2\pi\rho\left(r - \frac{d}{2}\right)$
6.  $-\left(\frac{\pi\rho_0 d^4}{48l^2} + \frac{\pi\rho_0 d^3}{6l^2}\left(r - \frac{d}{2}\right)\right)$
7.  $W = 0$
8.  $\Delta\phi = 4\pi a\sigma_1 \ln\left(\frac{a}{b}\right)$