3.1

Inside the spheres $Z < R$, so in the first line of the equation given above on page 118, $Z - R$ becomes $R - Z$. So then

$$V_{ave} = \frac{q_{enc}}{4\pi\varepsilon_0}\frac{1}{2ZR}\left[(Z+R)-(R-Z)\right] = \frac{2Zq_{enc}}{4\pi\varepsilon_0 2ZR} \quad \frac{q_{enc}}{4\pi\varepsilon_0 R}$$

In general, for an arbitrary number of some inside totaling, by the superposition principal $V_{ave} = V_{inside} + V_{outside}$

$V_{inside} = \frac{q_{enc}}{4\pi\varepsilon_0 R}$ as shown above. and $V_{outside} = \frac{q}{4\pi\varepsilon_0 Z} = V_{center}$ as shown on page 117-118. So,

$$V_{ave} = V_{inside} + \frac{Q_{enc}}{4\pi\varepsilon_0 R}$$

3.2 The charges will push each other away or attract each other until they are so close the weak force begins interacting.