8. (a) The potential as a function of r is

$$V(r) = V(0) - \int_0^r E(r)\, dr = 0 - \int_0^r \frac{qr}{4\pi\varepsilon_0 R^3}\, dr = -\frac{qr^2}{8\pi\varepsilon_0 R^3}\ .$$

(b) $\Delta V = V(0) - V(R) = q/8\pi\varepsilon_0 R$.

(c) Since $\Delta V = V(0) - V(R) > 0$, the potential at the center of the sphere is higher.