

75. (a) Using Eq. 25-26, we calculate the radius  $r$  of the sphere representing the 30 V equipotential surface:

$$r = \frac{q}{4\pi\epsilon_0 V} = 4.5 \text{ m} .$$

- (b) If the potential were a linear function of  $r$  then it would have equally spaced equipotentials, but since  $V \propto 1/r$  they are spaced more and more widely apart as  $r$  increases.