Electric Potential of Conducting Spheres (2)

Consider a conducting sphere with radius $r = 15\text{cm}$ and electric potential $V = 200\text{V}$ relative to a point at infinity.

(a) Find the charge Q and the surface charge density σ on the sphere.

(b) Find the magnitude of the electric field E just outside the sphere.

(c) What happens to the values of Q, V, σ, E when the radius of the sphere is doubled?