A conducting sphere of radius $r_1 = 2\text{m}$ is surrounded by a concentric conducting spherical shell of radii $r_2 = 4\text{m}$ and $r_3 = 6\text{m}$. The graph shows the electric field $E(r)$.

(a) Find the charges $q_1, q_2, q_3$ on the three conducting surfaces.

(b) Find the values $V_1, V_2, V_3$ of the electric potential on the three conducting surfaces relative to a point at infinity.

(c) Sketch the potential $V(r)$. 

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