6. **Griffiths, p. 101, Prob. 2.35 a) and b).** **Recall** That, **In** a **Conductor**, **All** the **Charges Must Lie On** the **Surfaces**. **In Addition To** the **Charge** q **On** the **Inner Sphere**, **Note That Induced Positive And Negative Charges** Can Strategically Be **Distributed On** the **Surfaces Of** the **Outer Conduction Shell**, **Which Results In No Net Charge On** the **Shell**. **In a)**, You Will Need To **Determine** the **Appropriate Surface Charge Densities**, σ_R, σ_a **And** σ_b, **Which Lie On** the **Various Surfaces At All Radii**, r, **Of** R, a, **And** b. **In b)**, **First Determine** the **Electric Field**, **E**, **In All Radial Domains**, $r < R$, $R < r < a$, $a < r < b$, **And** $r > b$, **And** Then **Using** the **Electric Potential Integral**, $V(r) = -\int_{\infty}^{r} \mathbf{E} \cdot d\mathbf{l}$, **Determine** the **Electric Potential**, $V(0)$, **At** the **Origin**, **By Integrating From Infinity To** the **Origin**, Being Careful To Use the Correct Electric Field In Each Domain.

7. **Griffiths, p. 126, Prob. 3.6.** **Simply Determine** the **Appropriate Image Charges**, q_i, **And Locations**, $\mathbf{r}_i$, **Which** will **Produce** the **Grounded Electrical Potential**, $V = 0$, **At** $z = 0$. **Using** the **Image And Real Charges**, **Calculate** the **Force Vector**, **F**, **On** the **Charge**, q, **At** the **Location** $z = 3d$.