Answer on question #73745-physics-mechanics|relativity

Two concentric thin metallic spheres having radii 30 cm and 20 cm carry 10 μC and 5 μC, charges respectively. Calculate the electric potential at a distance of 25 cm from the centre of the spheres.

Solution:
Electric potential from the center of spheres

$$V = \frac{1}{4\pi\varepsilon} \times \left(\frac{q}{r}\right)$$

For sphere with 30cm radius

$$= \frac{1}{4\pi(8.85 \times 10^{-12})} \times (10 \times 10^\wedge - 6)/0.3$$

=299726.8231v

For sphere with 25cm radius

$$= \frac{1}{4\pi(8.85 \times 10^{-12})} \times (5 \times 10^\wedge - 6)/0.25$$

179836.0939V