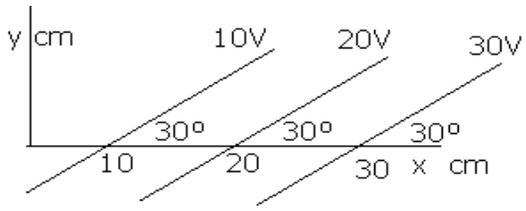
1. The radii of 2 charged spheres are 5 cm & 10 cm. Each has charge of 75 μC. they are connected by wire. Find (i) common potential (ii) charge transferred?
2. 64 drops of 1 mm radius, charged to 10 V coalesce to form 1 bigger drop. Find the new potential?
3. In a uniform electric field of 12 cm distance work done To move charge of 12 nC from one point to other is 288 μJ Find electric field in the region [200 V/m]




4. Find the electric field in region [200 V/m]
5. 13 μC charge is distributed along the circumference of circle of radius 5 cm. A particle of 20 gm and having charge of $-1\mu$ C is kept at distance of 12 cm on axial line. Now if charge of $-1$ μC is released find its speed when it reaches the center of circle [12 m/s]
6. Two charges $5 \times 10^{-8}$ C and $-3 \times 10^{-8}$ C are located 16 cm apart. At what points (s) on the line joining the two charges is the electric potential zero? Take the potential at Infinity to be zero. [Ans. 10 cm, 40 cm away]
7. An infinite number of charges each numerically equal to q and of the same sign are placed along the x-axis at x = 1,x = 2,x = 4,x = 8 and so on. Find electric potential at x = 0. [Ans. $2q/4\pi\in_o$]
8. Two electrons each with the velocity of $10^6$ m/s are released towards each other. What will be the distance closest approach?
9. A charge Q is distributed over two concentric hollow spheres of radii rand R (R > r) such that the surface charge densities are equal. Find the potential at the common centre. [Ans $\left[\frac{1}{4\pi\varepsilon_0}\left(\frac{R+r}{R^2+r^2}\right)\right]$]
10. Two concentric spherical shells A, and B of radii a, b (a < b) have charges $Q_A$, and $-Q_B$ respectively. (i) find the potential at distance r from center such that (i) r < a (ii) b < r < a (iii) r > b