(a) $a = qE/m$ (b) E has a constant direction (c) E has a constant magnitude
(d) The motion of the charge is always in a straight line.

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2. Which is false? When the charge distribution on a conductor reaches equilibrium,
(a) the electric field within the conductor is zero
(b) any electric charge deposited "on" the conductor resides on its surface
(c) the electric field at the surface is parallel to the surface

3. A negative charge "wants" to go from
(a) lower to higher potential (b) higher to lower potential (c) along an equipotential

4. If the potential energy of an assembly of charges is negative, then WE must do positive work (i.e. work hard) in order to separate the charges (i.e. remove them to infinity).
(a) True (b) False

5. The potential difference across a capacitor in a series circuit is the same as that across another in the same circuit.
(a) True (b) False

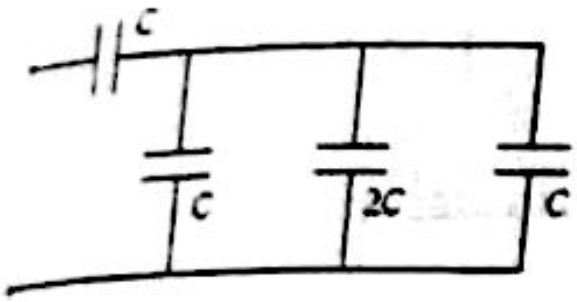
6. Each 2.0-m length of a long cylinder (radius = 4.0 mm) has a charge of 4.0 nC distributed uniformly throughout its volume. What is the magnitude of the electric field at a point 5.0 mm from the axis of the cylinder?
(a) 9.9 kN/C (b) 8.1 kN/C (c) 9.0 kN/C (d) 7.2 kN/C (e) 18 kN/C

7. Charge of uniform density (20 nC/m^2) is distributed over a cylindrical surface (radius = 1.0 cm), and a second coaxial surface (radius = 3.0 cm) carries a uniform charge density of $-12\ nC/m^2$. Determine the magnitude of the electric field at a point 2.0 cm from the symmetry axis of the two surfaces.
(a) 2.3 kN/C (b) 1.1 kN/C (c) 1.7 kN/C (d) 3.4 kN/C (e) 4.5 kN/C

8. A +4.0-μC charge is placed on the x axis at $x = +3.0$ m, and a -2.0-μC charge is located on the y axis at $y = -1.0$ m. Point A is on the y axis at $y = +4.0$ m. Determine the electric potential at point A (relative to zero at the origin).
(a) 6.0 kV (b) 8.4 kV (c) 9.6 kV (d) 4.8 kV (e) 3.6 kV

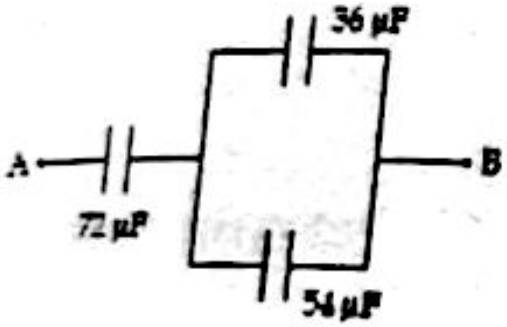
9. Determine the equivalent capacitance of the combination shown when $C = 1$

15 mF



(a) 20 mF (b) 16 mF (c) 12 mF (d) 24 mF (e) 75 mF

10. If $V_A - V_B = 50$ V, how much energy is stored in the 36-μF capacitor?



(a) 50 mJ (b) 28 mJ (c) 13 mJ (d) 8.9 mJ (e) 17 mJ