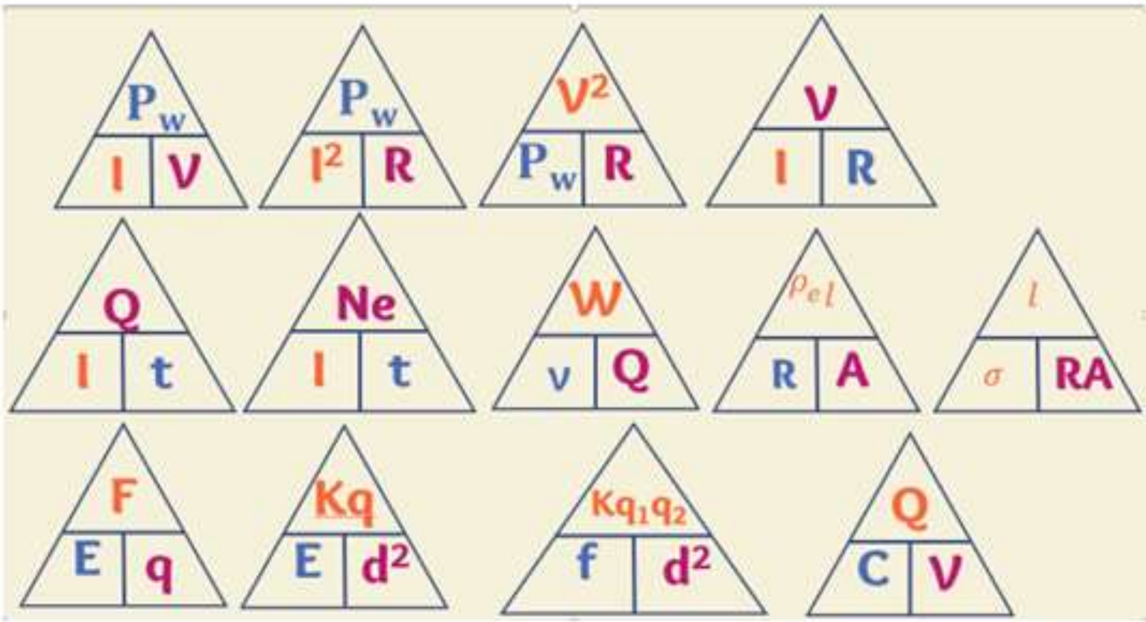
Physics Revision



1. Two charges are separated by 5 m. Object A has a charge of +5 μC, while object B has a charge of -4μ C. What is the force on object A?
2. Object A has a charge of +2.3 μC, while object B has a charge of -3.5μ C. while the force on object A equals 24 N, calculate the distance.
3. Object A has a charge of +4 μC, while object B has a charge of + X μ C. while the force on object A equals 24 N ,and the distance 2 m , what is the value of (X).
4. Two charges are separated by 3 cm. Object A has a charge of +6 μC, while object B has a charge of -3μ C. What is the force on object A?
5. What must be the distance between point charge q1 = 26 μC and point charge q2 = −47 μC for the electrostatic force between them to have a magnitude of 5.7 N?

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1. A force of 2 N is acting on the charge 4 μ C at any point. Calculate the electric field intensity at that point.
2. The electric field intensity which effects 5 μ C at any point. Calculate the force acting at that point
3. Two similar charges are separated by 10 cm. Object A has a charge of +5 μC,
   a) What is the force on object A?
   b) What is The electric field intensity?

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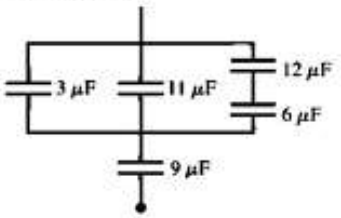
Find the equivalent capacitance of the five-capacitor network shown in the opposite Figure.



1. An electric circuit has a 100 Ω which resist 10 A calculate:
a) The potential difference
b) The time if you knew that the charge equal $6x10^{-5}c$.
2. An electrical element which has a resistance of 60 Ω is connected across a 24 V power supply. Calculate the current drawn from the power supply

3. 100W heating element is connected to a 25 V power supply voltage. Calculate a) the resistance of the element when it is hot b) the current drawn from the supply
4. A copper wire 30 m long and 2×10-6 m 2 cross sectional area has a potential difference of 3V across. Calculate the current if the copper resistivity is 1.79 × 10-8 Ω.m
5. A metallic wire is 1 m long and 1mm2 in cross -sectional area. It carries a current of intensity 4A when a 2V potential difference is applied between its ends. Calculate the conductivity of the metallic wire
6. Look at the figure and calculate the distance between point charge q_1 = - 30 μC and point charge q_2 = 40 μC for the electrostatic force between them to have a magnitude of 3 N

Hint: - $K = 9 \times 10^9\ N.m^2/c^2$

7. Look at the figure and calculate The equivalent capacitance

8.