Field Theory Equations:

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| Gravity | Electric |
|  Force:  FG - Force of gravity (of attraction) (N)G - 6.67x10-11 Nm2kg-2r - distance separating centers (m)m1&2 - the two masses (kg)Field:  g - gravitational field strength (N/kg)F - force exerted by field on the mass (N)m - the mass (kg) g - g near a point mass toward mass (N/kg)G - 6.67x10-11 Nm2kg-2M - the mass (kg)r - distance from the point mass (m) | Force: FE - Coulomb Force (of repulsion) (N)k - 8.99x109 Nm2C-2r - distance separating centers (m)q1&2 - the two charges (C)Field:  E - electric field strength (N/C)F - force exerted by field on charge (N)q - the charge (C)  (not in data packet)E - E near a point charge away from charge (N/C)k - 8.99x109 Nm2C-2q - the charge (C)r - distance from the point charge (m) |
| Energy:  Ep - gravitational potential energy (J)Vg - gravitational potential (J/kg)m - the mass (kg) W - work required to move a mass (J)ΔVg - change in gravitational potential (J/kg) ΔV = (Vfinal - Vinitial)m - the mass (kg) | Energy: Ep - electrical potential energy (J)Ve - electrical potential (J/C or Volts)q - the charge (C) W - work required to move a charge (J)ΔVe - change in electrical potential (J/C or Volts) ΔV = (Vfinal - Vinitial)q - the charge (C) |
| Potential: Vg - gravitational potential near a point mass (J/kg)G - 6.67x10-11 Nm2kg-2M - the mass (kg)r - distance from the mass (m) g - gravitational field strength (N/kg)ΔVg - change in gravitational potential (J/kg)Δr - displacement in direction of the field (m) | Potential:Ve - electrical potential near a point charge (J/C or Volts)k - 8.99x109 Nm2C-2q - the charge (C)r - distance from the charge (m) E - Electric field strength (N/C or V/m)ΔVe - change in electrical potential (J/C or Volts)Δr - displacement in direction of the field (m) |
|   Ep - gravitational potential energy of two masses (J)G - 6.67x10-11 Nm2kg-2M,m - the two masses (kg)r - distance separating centers (m) |   Ep - electrical potential energy of two charges (J)k - 8.99x109 Nm2C-2q1&2 - the two charges (C)r - distance separating centers (m) |