**Coulomb’s Law Enriched Notes**

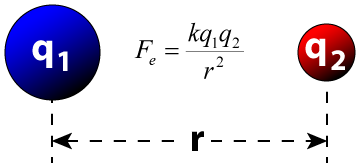
Def: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coulomb found the attraction between 2 objects depends on 2 things:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The stronger the charge the stronger the attraction will be, the greater the distance the weaker the attraction is.



|  |  |  |
| --- | --- | --- |
| Symbol | Stands for | Unit |
| k |  |  |
| q1 |  |  |
| q2 |  |  |
| r2 |  |  |
| Fe |  |  |

* q1 and q2 will be the same number unless specified in the problem.
* r often given in cm, must convert to m. ÷ 100

**ex- 1-** q1 = 4x10-7 C and r = 3 cm

**ex- 2-** Two positively charged objects each have a charge of 5.0x10-8 C and are placed 1.0 cm apart. What is the electrical force between the 2 objects?

**ex- 3**

Two positively charged particles at rest exert a force of 5.6 x 103 N on one another. The charge of the first particle is 6.0 x 10-5 C and the charge of the second particle is 2.0 x 10-4 C. What is the distance between the two charged particles?

**ex- 4**

Two positively charged particles at rest exert a force of 4.65 x 104 N on one another. The charge of the first particle is 7 x 10-5 C and the charge of the second particle is 5.55 x 10-6 C. What is the distance between the two charged particles?

**ex- 5**

What is the charge of sphere 2, if sphere 1 has a charge of 5x10-4 C the distance between both is 0.004 m and the electrical force acting between both spheres is 4x104 N?

**ex- 6**

What is the charge of a sphere , if one of the spheres has a charge of 9.99x10-3 C the distance between both is 1.75 cm and the electrical force acting between both spheres is 4.855x107 N?