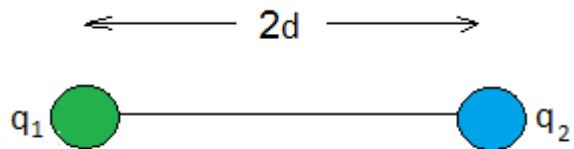


## Answer on Question #64313, Physics / Electromagnetism

Two charges  $q_1$  and  $q_2$  are separated by a distance  $d$ . If the distance is doubled the electric potential is?

**Solution:**



$$\varphi = k q / r$$

Where  $r = d$

$$\sum \varphi = \varphi_1 + \varphi_2$$

When  $d = 2d$

We have

$$\varphi_1 = k q_1 / 2d$$

$$\varphi_2 = k q_2 / 2d$$

$$\sum \varphi = k q_1 / 2d + k q_2 / 2d = k / 2d (q_1 + q_2)$$

**Answer: potential is reduced by half**