

7. Two charges attract each other with a force of 1.5 N. What will be the force if the distance between them is reduced to one-ninth of its original value?

$$F_a = k \frac{q_1 q_2}{d_a^2} = 1.5 \text{ N}$$

$$F_b = k \frac{q_1 q_2}{d_b^2} = k \frac{q_1 q_2}{\left(\frac{1}{9} d_a\right)^2} = 9^2 k \frac{q_1 q_2}{d_a^2} = 81(1.5 \text{ N}) = 121.5 \text{ N}$$

$F_b = 120 \text{ N}$

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