Sublevel 8 & 9 selected Q's: Coulombs Law

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SE8 Coulomb's Law Equation as a Guide to Thinking

The electrical force between two objects depends on the ___ and ___ the objects.
a. charge on; distance between
b. mass of; distance between
c. mass of; size of
d. charge on; size of
e. mass of; charge on

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SE8 Coulomb's Law Equation as a Guide to Thinking

Which of the following would cause the electrical force between two objects to decrease? List all that apply in alphabetical order without any spaces between letters.
a. increase the charge on one object
b. increase the charge on both objects
c. increase the mass of one object
d. increase the mass of both objects
e. increase the distance between the objects' centers
f. decrease the distance between the objects' centers

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SE8 Coulomb's Law Equation as a Guide to Thinking

Tripling the distance between two charged objects will cause the electrical force between them to be ___ the initial force.
a. the same as
b. one-third
c. one-sixth
d. one-ninth
e. three times
f. six times
g. nine times

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SE8 Coulomb's Law Equation as a Guide to Thinking

Halving the distance (i.e., decreasing by a factor of two) between two charged objects will cause the electrical force between them to be ___ the initial force.
a. the same as
b. twice
c. one-half
d. three times
e. one-third
f. four times
g. one-fourth

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SE8 Coulomb's Law Equation as a Guide to Thinking

The electrical force between two objects is 36 N. If the charge on one of the objects is doubled AND the distance between them is doubled, the force between them will be ___.
a. 4 N
b. 9 N
c. 12 N
d. 18 N
e. 36 N
f. 72 N
g. 108 N
h. 144 N
i. 324 N
j. none of these are correct

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SE8 Coulomb's Law Equation as a Guide to Thinking

The electrical force between two objects is 36 N. If the charge on BOTH of the objects is tripled AND the distance between them is tripled, the force between them will be ___.
a. 4 N
b. 9 N
c. 16 N
d. 18 N
e. 36 N
f. 72 N
g. 108 N
h. 144 N
i. 324 N
j. none of these are correct

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SE9 Coulomb's Law Calculations

Two objects (X and Y) are placed a particular distance from each other. The charge on X is 7.95000 x 10^-6 C and the charge on Y is 8.15000 x 10^-6 C. If the force between the objects is 0.250 N, what is the distance (in meters) between the two objects? Enter a numerical answer.

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SE9 Coulomb's Law Calculations

Two objects (X and Y) are placed a distance of 0.600 m from each other. The charge on X is 5.99000 x 10^-6 C and the charge on Y is 6.80000 x 10^-6 C. What is the value of the electrical force (in Newtons) between the two objects? Enter a numerical answer.