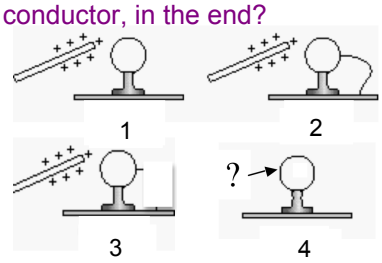
What is the charge remaining on the conductor, in the end?



A: **+** B: - C: 0 (Neutral) D: ??

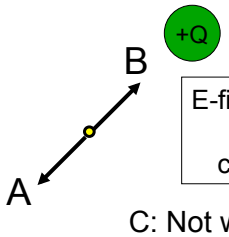
Electric Field:

$$\vec{\mathbf{E}} = \frac{\vec{\mathbf{F}}_{\text{on q}}}{q}$$

E is like the "unit price" in a store:

$$\vec{\mathbf{F}}_{\text{on q}} = q\vec{\mathbf{E}}$$

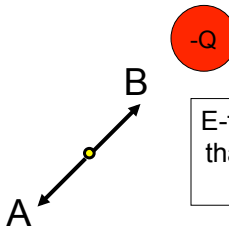
Which is the direction of the electric field created by charge +Q at the location shown (below and left)? Note: there are NO other CHARGES except +Q, anywhere!)



E-field points in direction that a positive test charge would move.

C: Not well defined!...

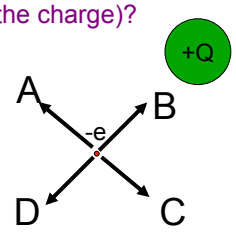
Which is the direction of the electric field created by charge -Q at the location shown (below and left of the charge)?



E-field points in direction that positive test charge would move.

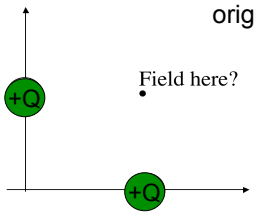
C: Not well defined!...

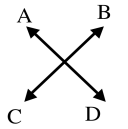
Which is the correct direction of the FORCE on a NEGATIVE test charge (–e) at the location shown (below and left of the charge)?



E: Not well defined!...

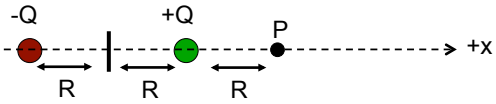
Two charges (each +Q), are equal distances from the origin. What is the direction of the electric field at the point in empty space which forms a square w. the charges and the origin?





E = none of these

Two charges -Q and +Q are located on the x-axis as shown. What is the ***magnitude*** of the electric field at point P?



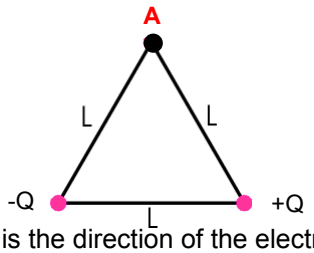
A) $\frac{kQ}{R^2}\left(\frac{1}{9}-1\right)$ B) $\frac{kQ}{R^2}\left(1-\frac{1}{4}\right)$ C) $\frac{kQ}{R^2}\left(1-\frac{1}{9}\right)$

D) $\frac{kQ}{R^2}\left(1-\frac{1}{3}\right)$ E) MORE than one!/other/??

An electric dipole (+Q and –Q separated by a small distance s) is placed along the x-axis as shown.

A test charge to the right is *removed.* The electric field at the location in empty space where the test charge was is...

A) 0 B) ➔ C) ➔



What is the direction of the electric field at point A, above the "dipole"?

A)0 B)➔ C)🡐 D)🡑 E) 🡓

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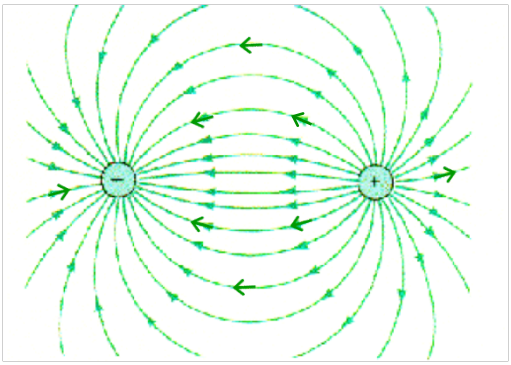

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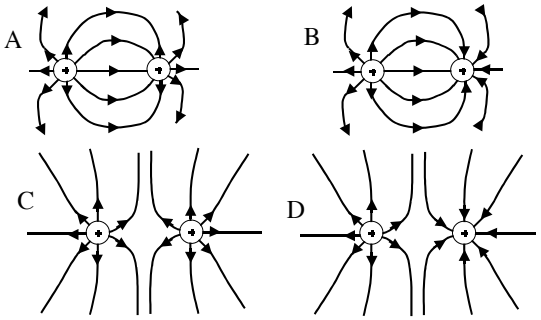
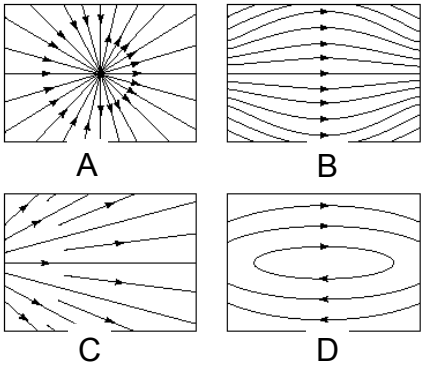


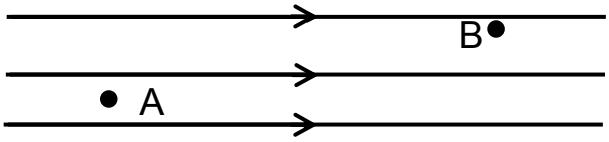
In the picture to come, <u>there are no charges</u> in the regions shown.

Which diagram(s) **could** represent physically possible electrostatic field lines?

(Vote E if you think *more* than one is possible, or *none*)



At which point, A or B, is the magnitude of the electric field LARGER?



C) It's the same at both (and non-zero)
D) It's the same at both (and zero)

What would the Electric field look like between two large oppositely charged conducting plates?