Announcements

- Homework 5 posted!
  - Only 4 problems this time, and 1 is really easy
  - Two are quite computer heavy though
  - Lots of plotting throughout
- Start reading Ch 3.3, but we won't talk about Separation of Variables until Monday probably
- Bring your laptop on Friday, as we'll probably try to use them

Q1

You and I are solving two entirely different problems, both of which have no charge density in our region of interest. What can you deduce about our two solutions?

A. Our solutions will be the same, due to uniqueness
B. Our solutions will be the same if we also have the same boundary conditions
C. Our solutions will be the same if we also our boundary conditions are both continuous
D. Our solutions will be the same if our regions of interest intersect

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Q2

Can a grounded conductor ($V = 0$) have a surface charge density on it?

A. Yes

B. No

C. Only if it has cavities inside it

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B. No
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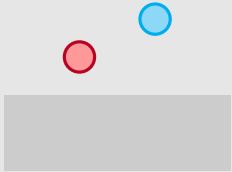
Q3

Solving the problem to the right with two charges above a grounded plane is akin to solving which of the below configurations?



A

B

C

D

Q3

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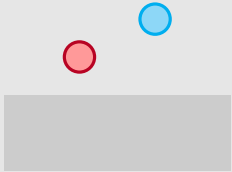


A

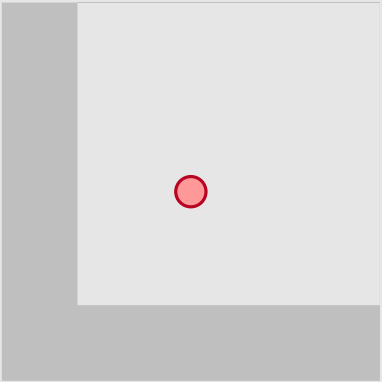
B

C

D

Q4

Can you use the method of images to solve situations with multiple grounded planes? Say you had a charge living beside two conducting planes.



A. Yes, and it would take 3 charges
B. Yes, and it would take 4 charges
C. No, it would take an infinite number of charges
D. No, you can not combine conducting planes with the method of images

Q4

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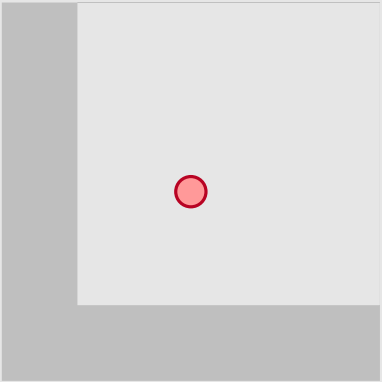

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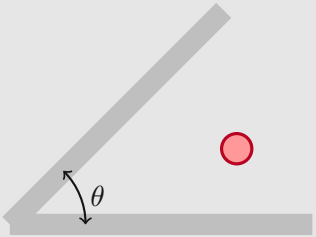
Q5

What if instead the grounded planes were at an angle to one another. Could you still use the method of images?

A. Yes
B. No
C. Sometimes?



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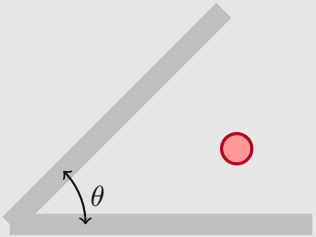
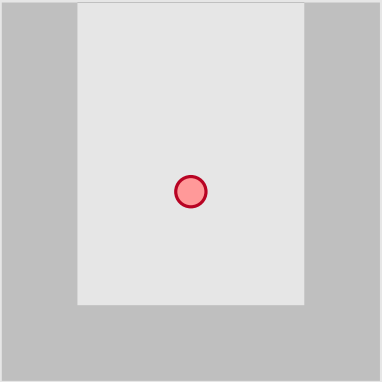


Q6

Could you use the method of images if the grounded planes formed a kind of Death Star trench around the charge?



A. Yes, it would take 4 total charges
B. Yes, it would take 6 total charges
C. Yes, it would take 9 total charges
D. No, method of images will not work here

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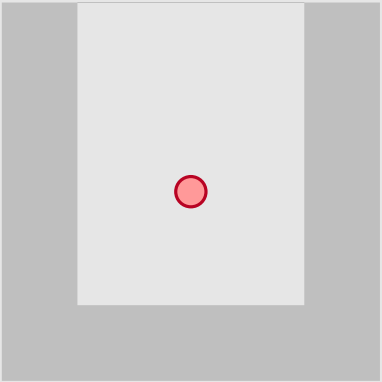

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Q7

Like potential, energy is the same between configurations when using the method of images.

A. True
B. False

Q7

Like potential, energy is the same between configurations when using the method of images.

A. True
B. False