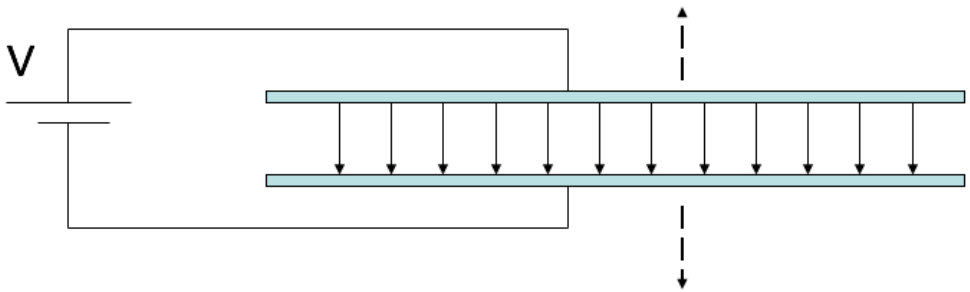


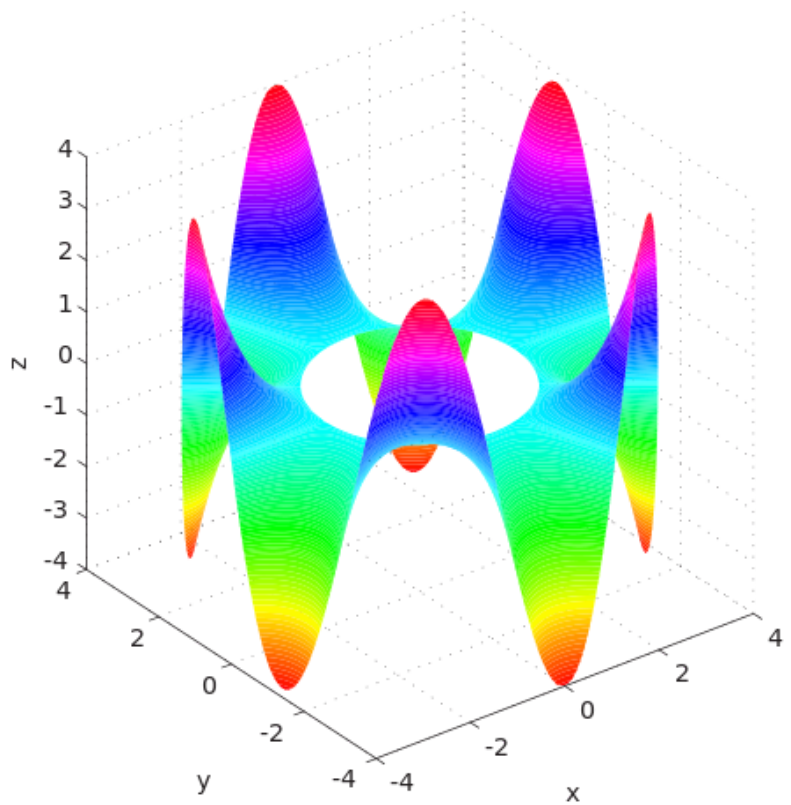
A parallel plate capacitor is attached to a battery which maintains a constant voltage difference V between the capacitor plates. While the battery is attached, the plates are pulled apart. The electrostatic energy stored in the capacitor

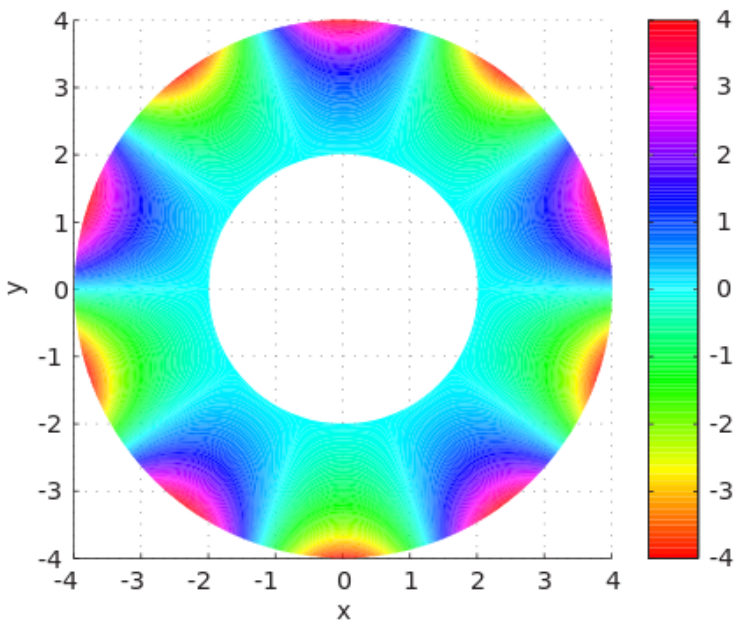
A. increases.
B. decreases.
C. stays constant.

EXAM REWRITES

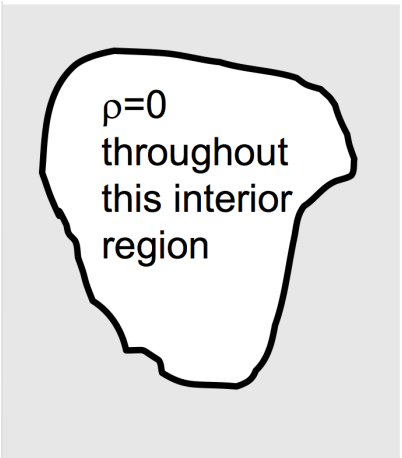
- Circled grade is the grade you will earn if you do the rewrite
- To earn the circled grade:
  - Complete the parts that you didn't earn full credit
  - Write one paragraph per problem (max 4 paragraphs) about what you didn't understand at the time of the exam, what you did to correct that understanding, and how that relates to the solution you've written up.

LAPLACE'S EQUATION



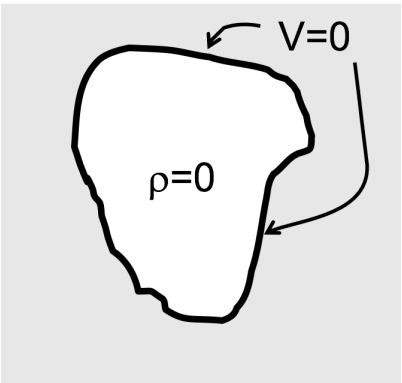


A region of space contains no charges. What can I say about V in the interior?



A. Not much, there are lots of possibilities for $V(r)$ in there
B. $V(r) = 0$ everywhere in the interior.
C. $V(r)$ =constant everywhere in the interior

A region of space contains no charges. The boundary has V=0 everywhere. What can I say about V in the interior?



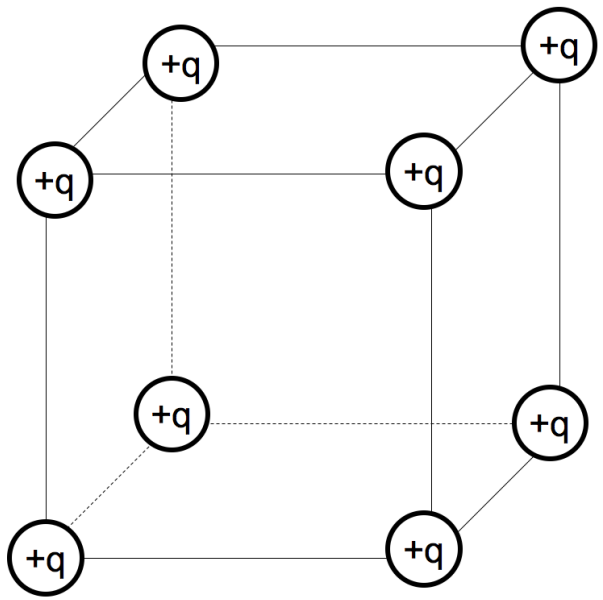
A. Not much, there are lots of possibilities for $V(r)$ in there

B. $V(r) = 0$ everywhere in the interior.

C. $V(r) =$constant everywhere in the interior

For the 1D Laplace problem ($\nabla^2 V = \partial^2 V/\partial x^2 = 0$), we can choose the following ansatz:

A. $k_0\, x$
B. $k_0\, x + k_1$
C. $k_0\, x^2 + k_1\, x + k_2$
D. Can't tell



If you put a positive test charge at the center of this cube of charges, could it be in stable equilibrium?

A. Yes

B. No

C. ???