Name			
Ph	ysics 111 Quiz #2, January 21, 2022		
	Please show all work, thoughts and/or reasoning in order to receive partial credit. The quiz is worth 10 points total.		
	I affirm that I have carried out my academic endeavors with full academic honesty.		
1.	Suppose that a particle accelerator is constructed out of two parallel metal plates. The plates are circular with a diameter $0.5m$, are separated by a distance $2m$, and a vacuum ($\kappa = 1$) exists between the plates. What is the capacitance of this system?		
2.	Suppose that a potential difference of 2.2 <i>MV</i> was placed across the plates. What is the magnitude and direction of the electric field between the plates?		
3.	What charge was on a plate of this capacitor?		

4.	How much energy is stored in the electric fields of the capacitor?	
5.	Suppose that a helium ion $\binom{4}{2}He^{+2}$ was accelerated from rest through this accelerator. What we the speed of the helium ion be when it exited the accelerator?	ould