

Exercise 24.7

A parallel-plate air capacitor is to store charge of magnitude 270 pC on each plate when the potential difference between the plates is 44.0 V .

Part A

If the area of each plate is 6.80 cm^2 , what is the separation d between the plates?

Express your answer with the appropriate units.

$d = 0.981 \text{ mm}$

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Part B

If the separation between the two plates is double the value of d found in Part A, what is the potential difference V between the plates when the charge on each plate is 270 pC ?

Express your answer with the appropriate units.

$V = 88.0 \text{ V}$

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