Uniqueness Theorem

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- If the solution to Laplace equation can be found that satisfies the boundary conditions, then the solution is unique

$$\nabla^2 V_1 = 0, \qquad \nabla^2 V_2 = 0$$

$$V_1 = V_2 \qquad \text{on the boundary}$$

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Example

Example 2b

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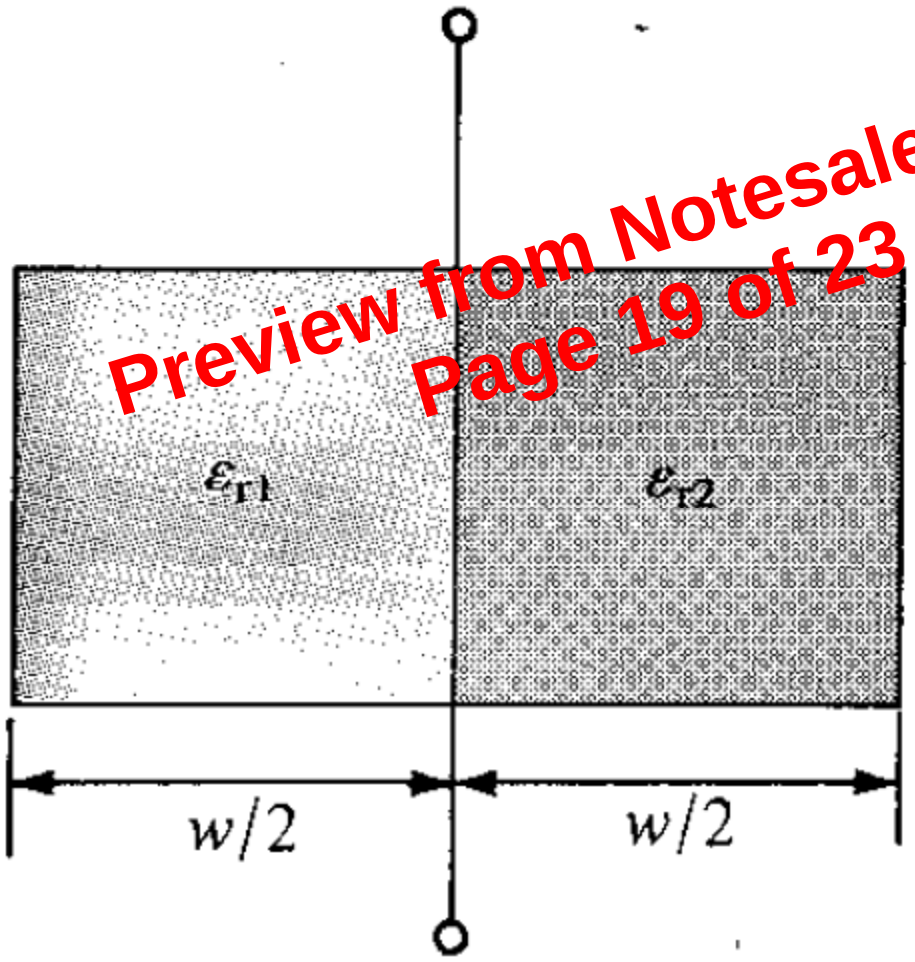

Determine Their Capacitance

Take $\varepsilon_{r1} = 4, \varepsilon_{r2} = 6,\ d = 5$ mm, $S = 30$ cm^2.