

WebAssign
CH22-HW01-FALL2010 (Homework)

Yinglai Wang
 PHYS 272-FALL 2012, Fall 2012
 Instructor: Virendra Saxena

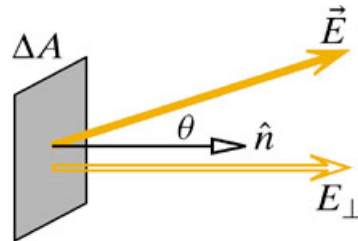
Current Score : 13 / 13 **Due :** Friday, November 9 2012 11:59 PM EST

1. 2/2 points | [Previous Answers](#)

MI3 22.2.X.001.alt01

If the electric field in the figure is 700 volts/meter, and the field is at an angle of 35 degrees to the outward-going normal, what is E_{\perp} ?

✓ V/m

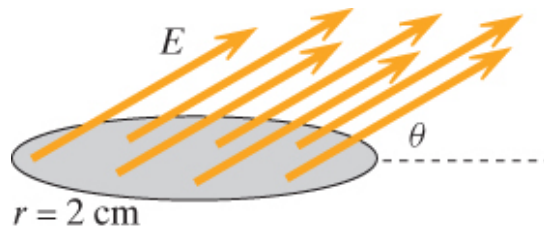


- [Read the eBook](#)
- [Section 22.2](#)

2. 3/3 points | [Previous Answers](#)

MI3 22.2.X.010

The figure shows a disk-shaped region of radius 2 cm, on which there is a uniform electric field of magnitude 277 volts/meter at an angle of $\theta = 24$ degrees to the plane of the disk.



Calculate the electric flux on the disk, and include the correct units.

✓

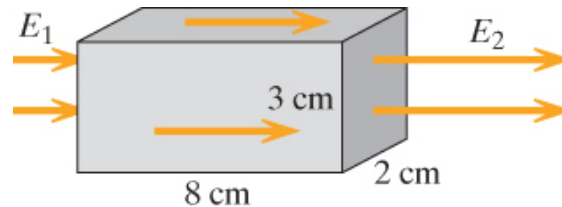
- ☒ Vm
- ☐ V/m
- ☐ V/m²
- ☐ Vm²

- [Read the eBook](#)
- [Section 22.2](#)

3. 8/8 points | [Previous Answers](#)

MI3 22.3.X.011

The figure shows a box on whose surfaces the electric field is measured to be horizontal and to the right. On the left face (3 cm by 2 cm) the magnitude of the electric field E_1 is 270 volts/meter, and on the right face the magnitude of the electric field E_2 is 810 volts/meter. On the other faces only the direction is known (horizontal). Calculate the electric flux on every face of the box, the total flux, and the total amount of charge that is inside the box.



Flux through top

 ✓ Vm

Flux through bottom

 ✓ Vm

Flux through left

 ✓ Vm

Flux through right

 ✓ Vm

Flux through front

 ✓ Vm

Flux through back

 ✓ Vm

Total Flux

 ✓ VmTotal charge inside box (recall $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2/\text{N}\cdot\text{m}^2$) ✓ C

- [Read the eBook](#)
- [Section 22.3](#)