

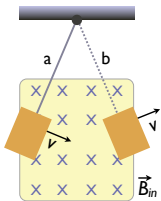
## PH 102 Quiz 7

1. A magnetic field of 0.3 T is directed perpendicular to the plane of a circular loop of wire of radius 25 cm. Find the magnetic flux through the area enclosed by this loop.

- $2.3 \times 10^{-2} \text{ T}$
- $7.1 \times 10^{-3} \text{ T}\cdot\text{m}^2$
- $4.8 \times 10^{-1} \text{ T}\cdot\text{m}^2$
- $5.9 \times 10^{-2} \text{ T}\cdot\text{m}^2$

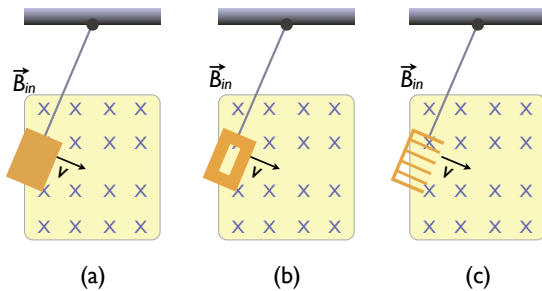
2. A magnet and a non-magnet of the same mass are dropped into copper tubes of equal length. Which takes longer to come out?

- The magnet.
- The non-magnet.
- It takes the same amount of time.



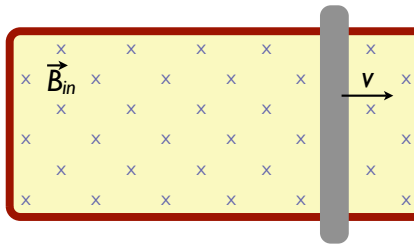
3. A flat metal plate swings at the end of a bar as a pendulum, as shown. When the pendulum is at position **a**, what are the directions of the induced currents and (magnetic) force on the bar, respectively?

- Clockwise; to the left
- Counterclockwise; to the right
- Clockwise; to the right



4. Which pendulum experiences the largest (magnetic) force?

- a
- b
- c
- they all experience the same force



5. A conducting bar slides on two fixed conducting rails with, a constant magnetic field pointing into the page. What are the directions of the induced current and the force on the bar, respectively?

- Counterclockwise; to the left
- Clockwise; to the left
- Counterclockwise; to the right
- Clockwise; to the right