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2.- $B = \cdot$
      $w = \cdot$

$A = 0.25^2 = 0.0625 \, m^2$

$\theta = -wt$

$\phi = -B \cdot A \cdot \cos \theta$

$\varepsilon = \dfrac{d\phi}{dt} = \dfrac{d}{dt}\left[-B \cdot A \cdot \cos(-wt)\right]$

$\varepsilon_{(t)} = B \cdot A \cdot \text{sen}(-w \cdot t) \cdot -w$

$\varepsilon_{(t)} = -B \cdot A \cdot \text{sen}(-wt) \cdot w \quad \rightarrow \quad \varepsilon_{(1)} = 0$

$\varepsilon_{(0.5)} = 5 \cdot 10^{-3}$

$\varepsilon_{(1)} \rightarrow \quad + B \cdot A \cdot \text{sen}(-wt) \cdot w = 0$

$\text{sen}(-wt) = 0 \rightarrow w = \alpha \pi$

$w = \pi$

$\varepsilon_{(0.5)} \rightarrow$

$5 \cdot 10^{-3} = + B \cdot A \, \text{sen}\left(\dfrac{-\pi}{2}\right) \cdot \pi$

$B = \dfrac{-5 \cdot 10^{-3}}{\pi \cdot A \cdot \text{sen}\left(\dfrac{-\pi}{2}\right)} = \dfrac{5 \cdot 10^{-3}}{\pi \cdot A}$

$B = 0.02346$

$\boxed{B = 0.025 \ T}$