Quiz

- Assume that a plane located at $y = 0$ separates 2 mediums. Medium 1 is in $y > 0$ with relative permeability $\mu_{r1} = 2$ and medium 2 is in $y < 0$ with relative permeability $\mu_{r2} = 1$. The magnetic field intensity vector in medium 1 near the boundary is $\boldsymbol{H_1} = 4\hat{\boldsymbol{x}} - 2\hat{\boldsymbol{y}} + 8\hat{z}$ A/m.
  - If no free current density exists on the boundary ($\boldsymbol{J_s} = 0$), find the magnetic field intensity vector $\mathbf{H_2}$ in medium 2 near the boundary.
  - If the free current on the boundary is $\boldsymbol{J_s} = 3\hat{\boldsymbol{x}}$, find the magnetic field intensity vector $\mathbf{H_2}$ in medium 2 near the boundary.