

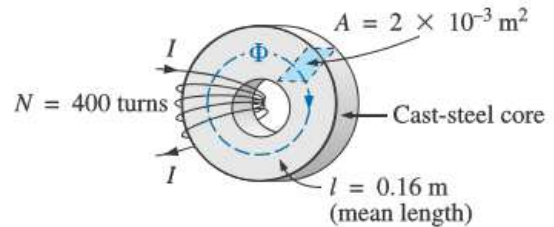
Series 3

Time-dependent phenomenon (quasi-stationary regime)

Exercise 1:

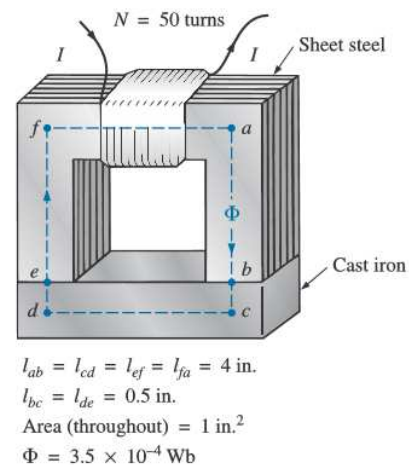
For the series magnetic circuit in the figure below:

- 1- Find the value of I required to develop a magnetic flux of $\phi = 4 \times 10^{-4}$ Wb.
- 2- Determine μ and μ_r for the material under these conditions.



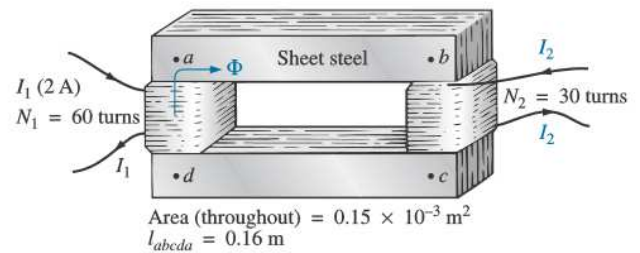
Exercise 2:

The electromagnet in the Figure below has picked up a section of cast iron. Determine the current I required to establish the indicated flux in the core.



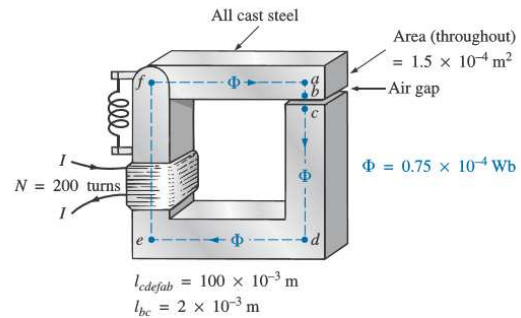
Exercise3:

Determine the secondary current I_2 for the transformer in the Figure below if the resultant clockwise flux in the core is 1.5×10^{-5} Wb.



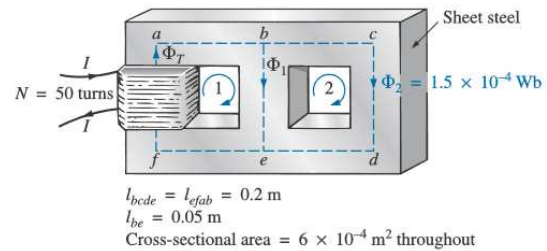
Exercise 4:

Find the value of I required to establish a magnetic flux of $\phi = 0.75 \times 10^{-4}$ Wb in the series magnetic circuit in the Figure below.



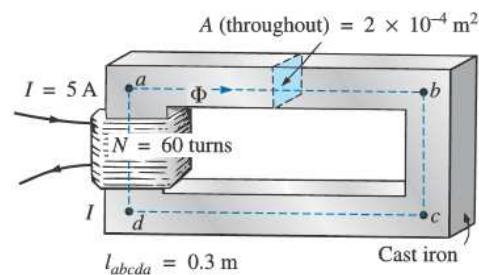
Exercise 5:

Determine the current I required to establish a flux of 1.5×10^{-4} Wb in the section of the core indicated in the Figure.



Exercise 6:

Calculate the magnetic flux ϕ for the magnetic circuit in the Figure.



Exercise 7:

Find the magnetic flux ϕ for the series magnetic circuit in the Figure below for the specified impressed mmf.

