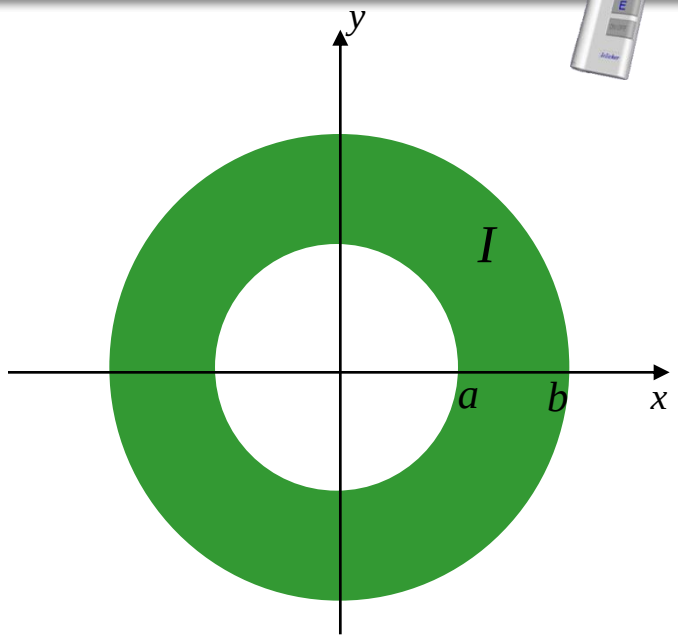
Example Problem

What is the current density j (Amp/m^2) in the conductor?



A) $j = \dfrac{I}{\pi b^2}$

B) $j = \dfrac{I}{\pi b^2 + \pi a^2}$

C) $j = \dfrac{I}{\pi b^2 - \pi a^2}$

$$\underbrace{j = I / area \qquad area = \pi b^2 - \pi a^2}$$

$$j = \frac{I}{\pi b^2 - \pi a^2}$$