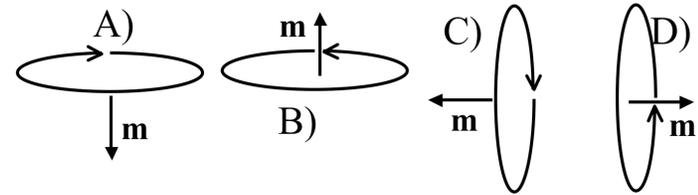The force on a segment of wire L is $\mathbf{F} = I\mathbf{L} \times \mathbf{B}$ A current-carrying wire loop is in a constant magnetic field $\mathbf{B} = B\hat{z}$ as shown. What is the direction of the torque on the loop?
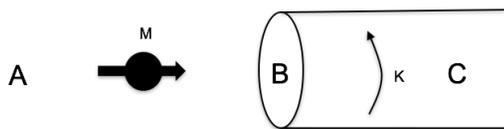
A. Zero
B. +x
C. +y
D. +z
E. None of these

The torque on a magnetic dipole in a B field is:

$$\tau = \mathbf{m} \times \mathbf{B}$$

How will a small current loop line up if the B field points uniformly up the page?

Suppose I place a small dipole $\mathbf{M}$ at various locations near the end of a large solenoid. At which point is the magnitude of the force on the dipole greatest?

D) Not enough information to answer

E) There is no net force on a dipole

Recall: $\mathbf{F} = \nabla(\mathbf{m} \cdot \mathbf{B})$