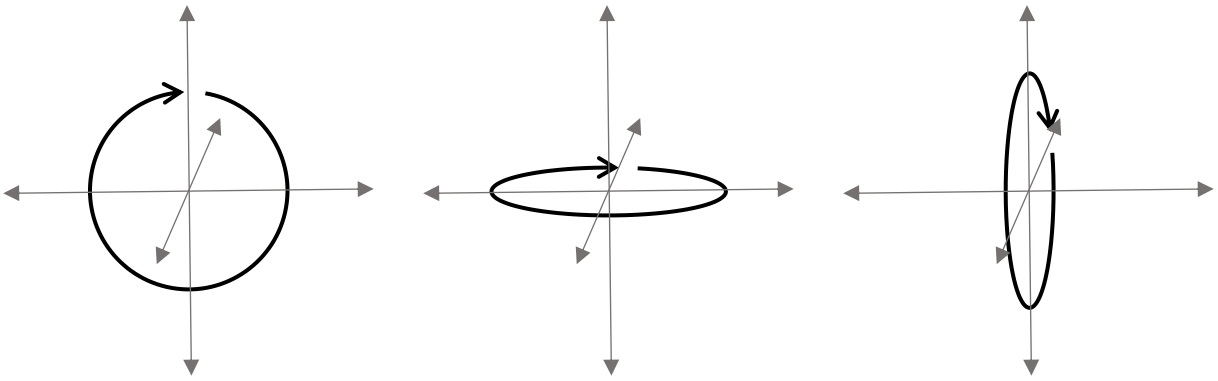
# Laplace Force

1. A straight conducting wire carrying current *I* is immersed in a uniform magnetic field *B*. What current direction gives the greatest magnetic force on the wire?

2. How should vectors $\vec{L}$, $\vec{W}$, and $\vec{B}$ be oriented to give the greatest magnitude to the vector $(\vec{L} \times \vec{W}) \times \vec{B}$?

3. How should vectors $\vec{\mu}$ and $\vec{B}$ be oriented to give the greatest possible magnitude to $\vec{\mu} \times \vec{B}$?

4. What is the direction of the magnetic moments $\vec{\mu}$ of the current-carrying loops below? The curved paths show the direction of the current.



5. What is the direction of the torque on the above loops from a magnetic field directed to the right?