Magnetic Force Application (12)

An electric current $I = 1$A flows through the M-shaped wire in the direction indicated. The wire is placed in a magnetic field $B = 1$T pointing into the plane.

(a) Find the magnitude of the magnetic forces F_1, F_2, F_3, F_4 acting on each part of the wire.

(b) Find the direction of the resultant force $\vec{F} = \vec{F}_1 + \vec{F}_2 + \vec{F}_3 + \vec{F}_4$ acting on the wire.