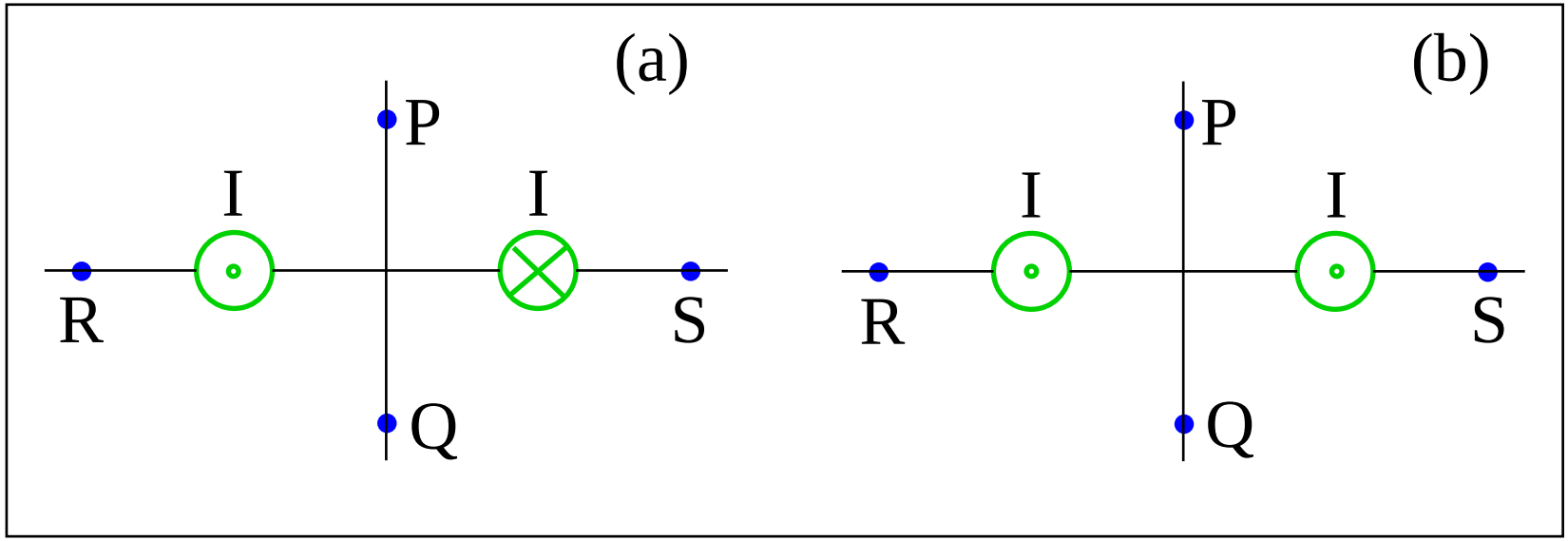
Magnetic Field Application (10)

Consider two currents of equal magnitude in straight wires flowing perpendicular to the plane.

- In configurations (a) and (b), find the direction $(\rightarrow, \leftarrow, \uparrow, \downarrow)$ of the magnetic field generated by the two currents at points P, Q, R, S

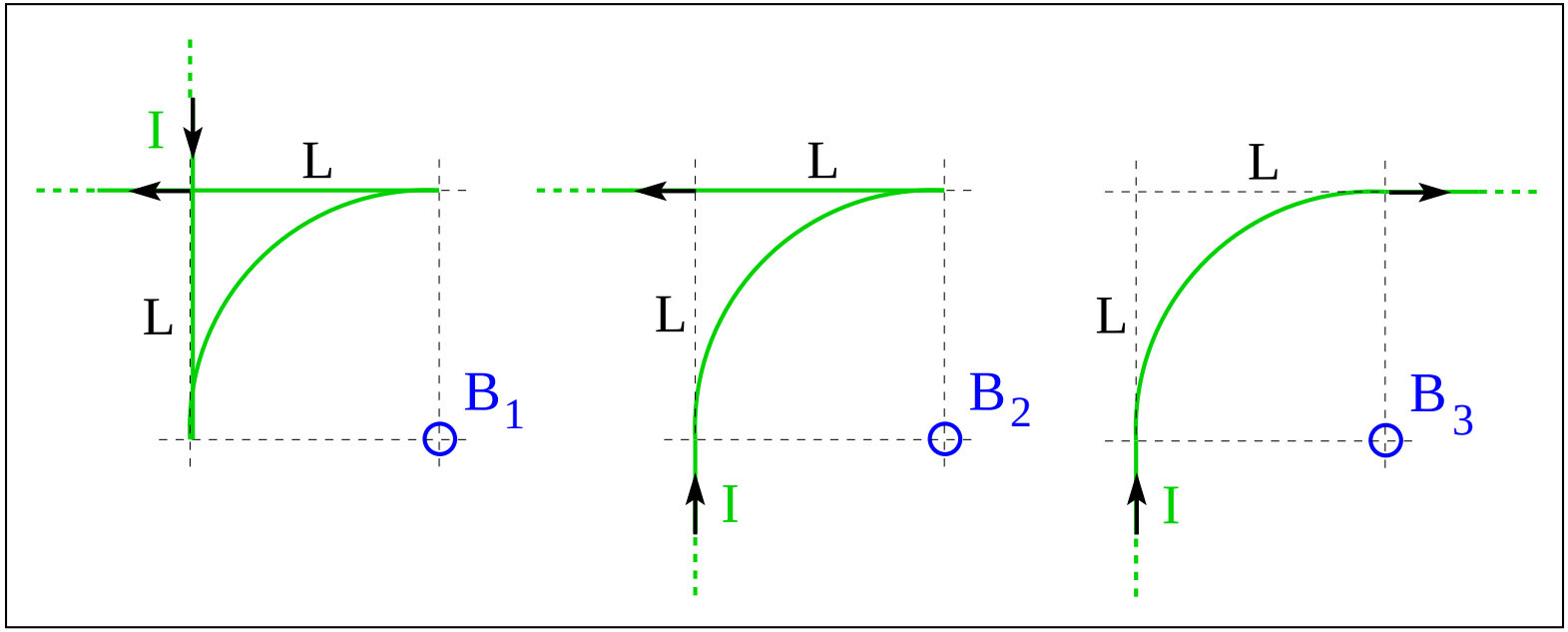


Magnetic Field Application (3)

Two semi-infinite straight wires are connected to a segment of circular wire in three different ways. A current I flows in the direction indicated.

(a) Find the direction $(\odot, \otimes)$ of the magnetic fields $\vec{B}_1, \vec{B}_1, \vec{B}_3$.

(b) Rank the magnetic fields according to strength.



Magnetic Field Application (14)

Consider two pairs of rectangular electric currents flowing in the directions indicated.

(a) What is the direction $(\rightarrow, \leftarrow)$ of the magnetic force experienced by the black rectangle in each case?

(b) Which black rectangle experiences the stronger magnetic force?