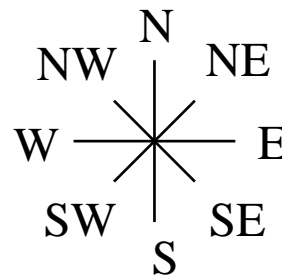
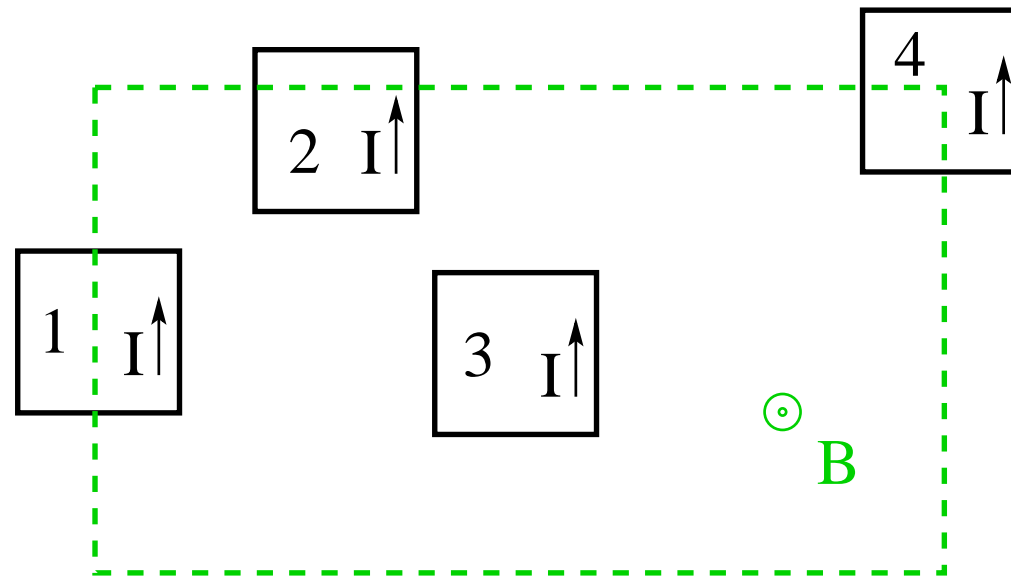


Magnetic Force Application (3)



The dashed rectangle marks a region of uniform magnetic field \vec{B} pointing out of the plane.

- Find the direction of the magnetic force acting on each loop with a ccw current I .



Magnetic Force Application (4)

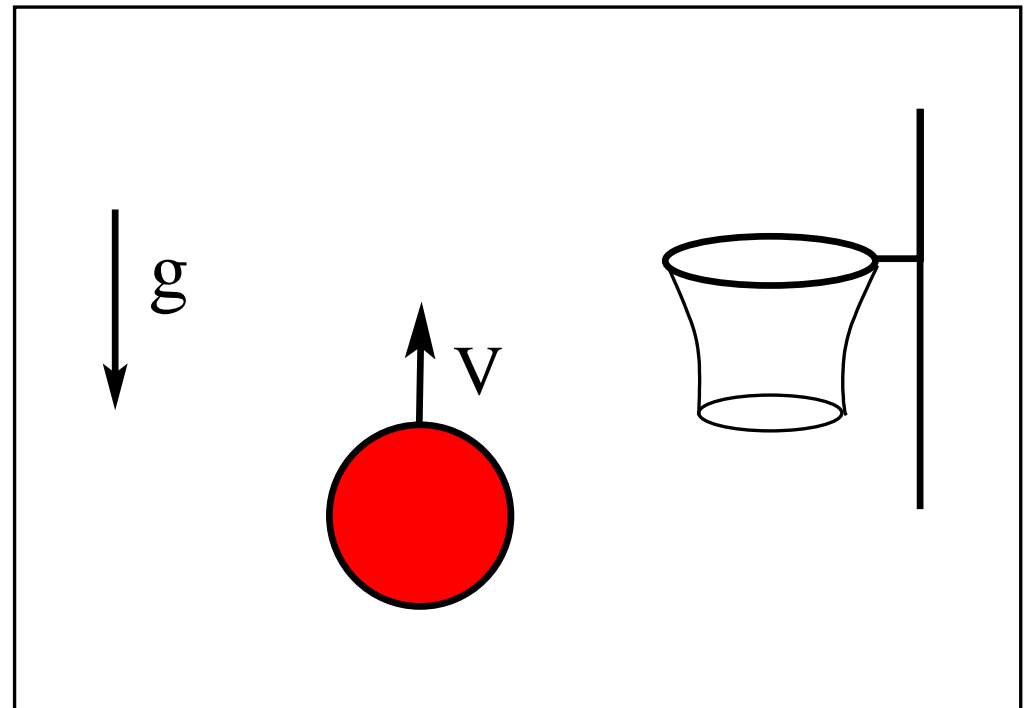


A negatively charged basketball is thrown vertically up against the gravitational field \vec{g} .

Which direction of

- (a) a uniform electric field \vec{E} ,
- (b) a uniform magnetic field \vec{B}

will give the ball a chance to find its way into the basket?
(up/down/left/right/back/front)



Magnetic Force Application (7)



The rectangular 20-turn loop of wire is 10cm high and 5cm wide. It carries a current $I = 0.1\text{A}$ and is hinged along one long side. It is mounted with its plane at an angle of 30° to the direction of a uniform magnetic field of magnitude $B = 0.50\text{T}$.

- Calculate the magnetic moment μ of the loop.
- Calculate the torque τ acting on the loop about the hinge line.

