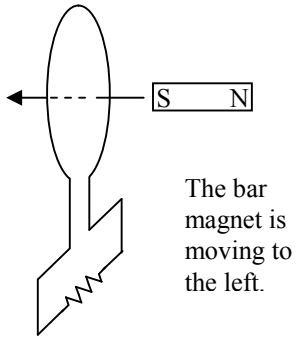
Physics 132 Name_____

Recitation Instructor (circle one): Dick Jane Sally Pete Spot

QUIZ #7 **25 points, 18 minutes** SCORE_____

Problem 1 (12 points).

(a) Use an arrow to indicate the direction of the induced current through the resistor.

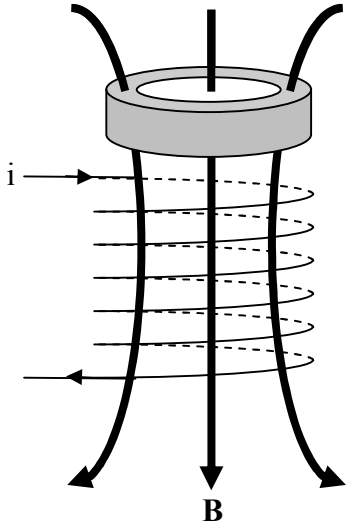


The bar magnet is moving to the left.

(b) A conducting ring (grey) rests on top of a solenoidal coil (current i). At the moment shown, the current is large, but decreasing. The magnetic field lines from the coil are also shown (thick black).

(i) Use an arrow to indicate the direction of the induced current in the ring.

(ii) Does the magnetic force on the ring act to crush it or expand it?



Problem 2 (13 points). A round loop of wire with a radius of 6.0 cm and a resistance of 10 Ω, lies in a 2.0 T magnetic field oriented upwards. The loop is rotating 60 times per second about the axis indicated by the dashed line.

(a) What is the current in the loop at the moment shown?

(b) What will the current be when the loop has rotated 90^{o}.