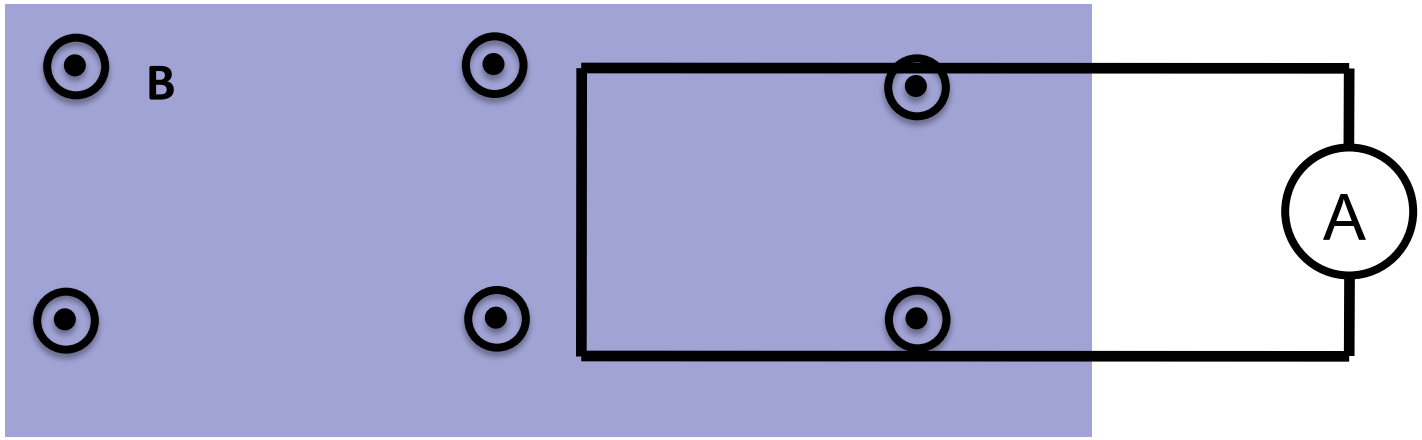
Consider two situations:

1) Loop moves to right with speed |v|, magnet stationary

2) Magnet moves to left with (same) speed |v|, loop stationary

What will the ammeter read in each case?

(Assume that CCW current => positive ammeter reading)



A) $I_1 > 0, I_2 = 0$

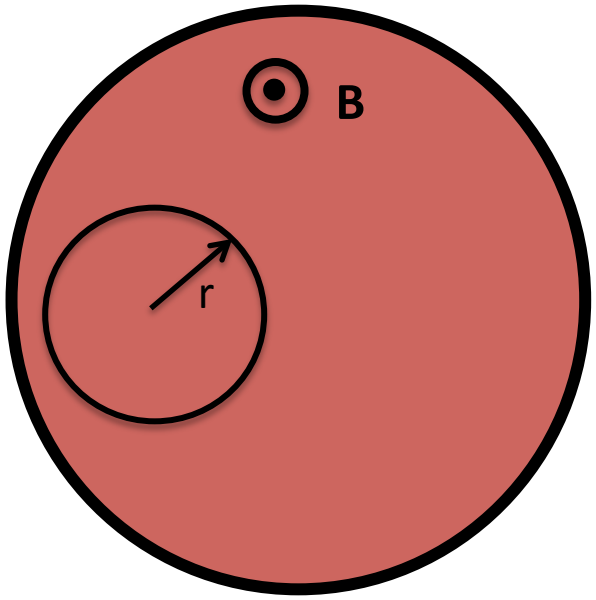
B) $I_1 = I_2 > 0$

C) $I_1 = -I_2 > 0$

D) $I_1 = I_2 = 0$

E) Something different/not sure

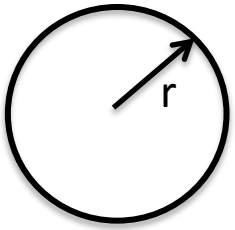
The current in an infinite solenoid with uniform magnetic field **B** inside is increasing so that the magnitude B in increasing with time as $B=B_0+kt$. A small circular loop of radius r is placed NON-coaxially inside the solenoid as shown. What is the emf around the small loop?
(Assume CW is the direction of d**l** in the EMF loop integration)

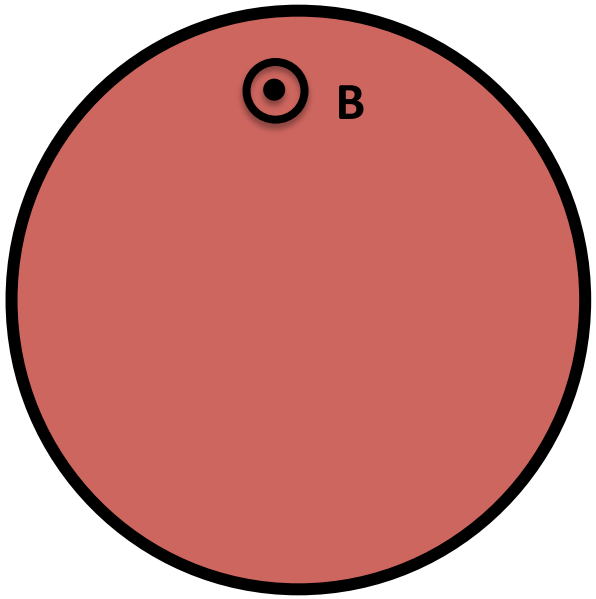


A. $k\pi r^2$
B. $-k\pi r^2$
C. Zero
D. Nonzero, but need more information for value
E. Not enough information to tell if zero or non-zero

7.30

The current in an infinite solenoid with uniform magnetic field **B** inside is increasing so that the magnitude B in increasing with time as $B=B_0+kt$. A small circular loop of radius r is placed outside the solenoid as shown. What is the emf around the small loop? (Assume CW is the positive direction of current flow).

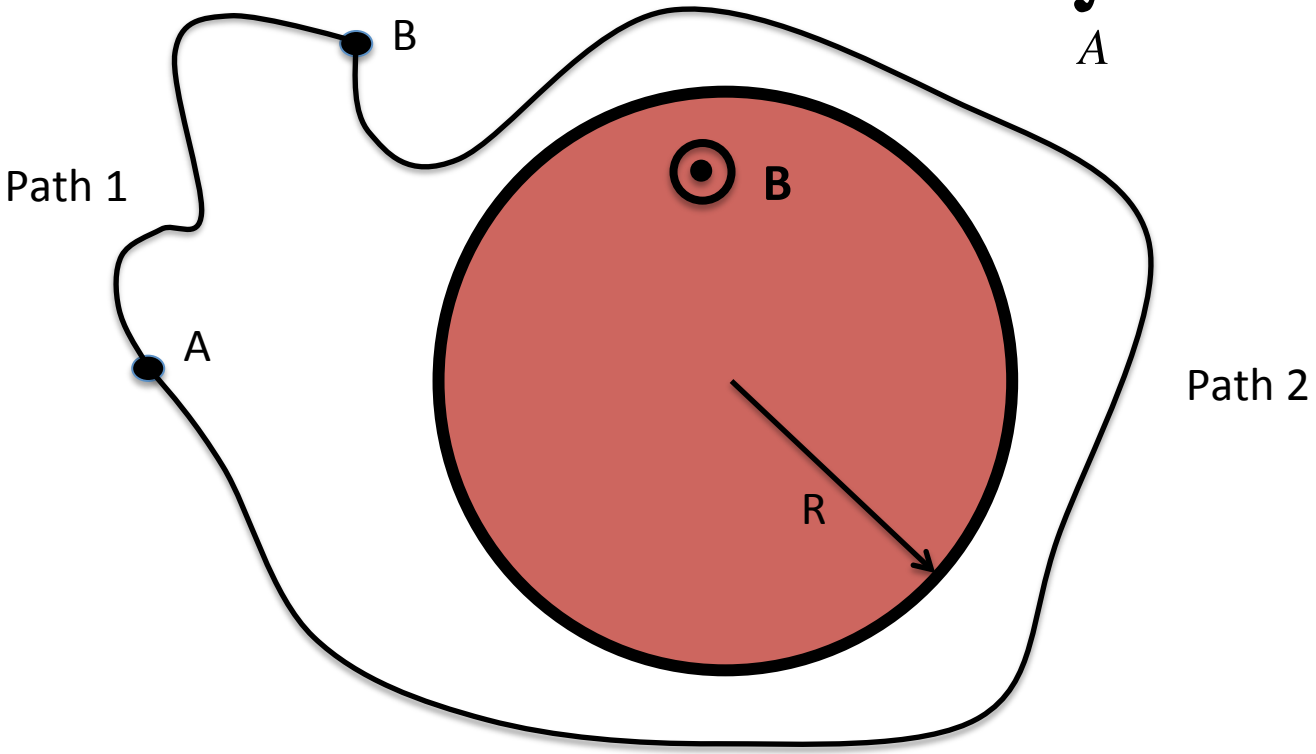




A. $k\pi r^2$
B. $-k\pi r^2$
C. Zero
D. Nonzero, but need more information for value
E. Not enough information to tell if zero or non-zero

The current in an infinite solenoid of radius R with uniform magnetic field **B** inside is increasing so that the magnitude B in increasing with time as $B=B_0+kt$. If I calculate V along path 1 and path 2 between points A and B, do I get the same answer?

$$V = -\int_A^B E \cdot dl$$



A. Yes
B. No
C. Need more information