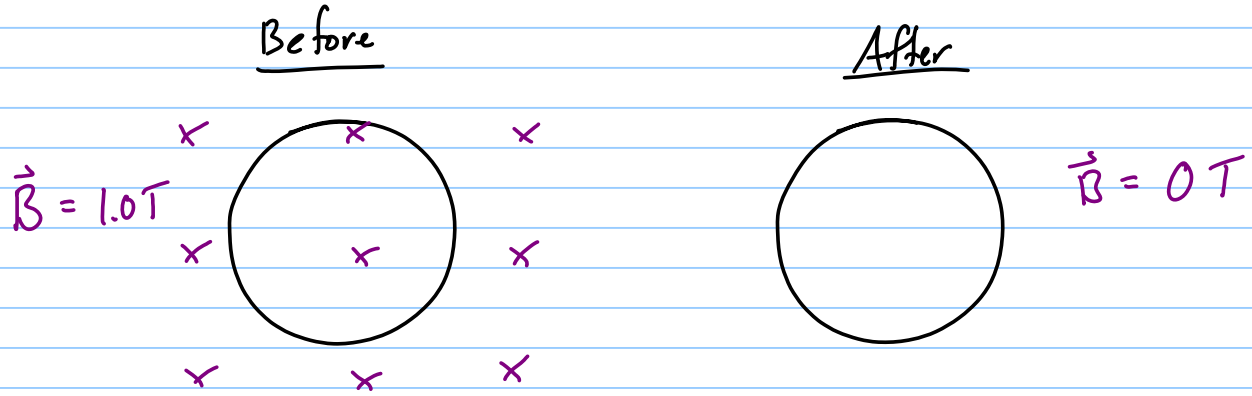
Quiz 4b

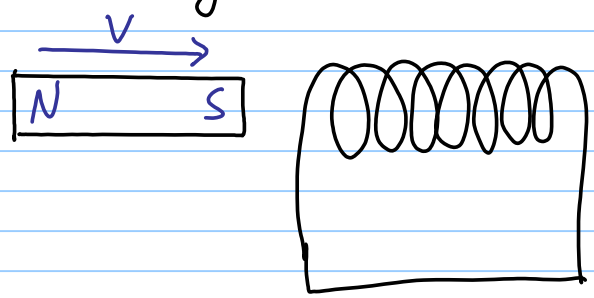
Note Title 27/05/2011

The circular loop of wire shown below and is in a 0.60 T magnetic field. This field is increased to 1.40 T in 0.25 s. The loop has a radius of 0.35 m. Determine the **magnitude** of the EMF and the **direction** of current.

2.) What direction does current flow in the loop shown?



3) Show the north and south poles induced in the solenoid (coil) when the magnet is moved as shown.



$= -0.60T$ $\qquad$ $= -1.40T$

$$\Delta\Phi = \Delta B A = [-1.40-(-0.60)]\pi(0.35)^2 = -0.3079\ Wb$$

$$\mathcal{E} = \frac{-N\Delta\Phi}{t} = \frac{-(1)(-0.3079\ Wb)}{0.25\ s} = 1.23\ V$$

clockwise

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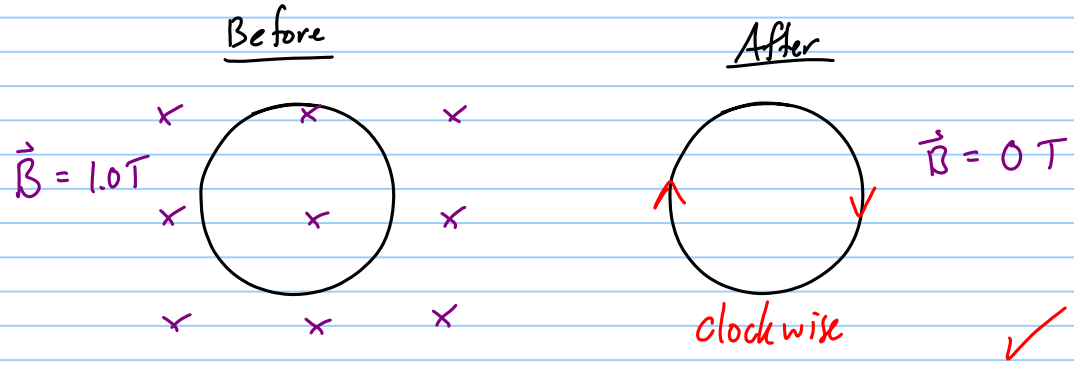

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