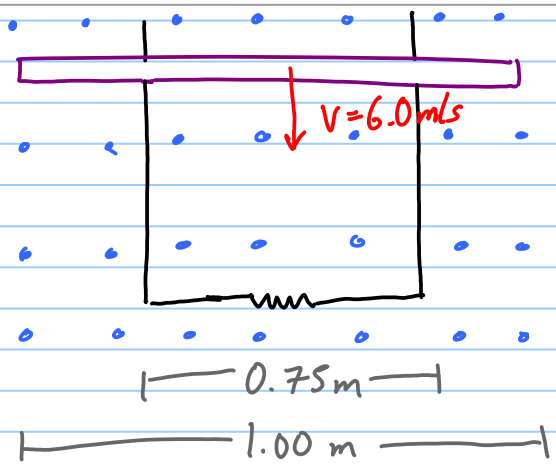
$\vec{B} = 1.2T$

Quiz 5 b

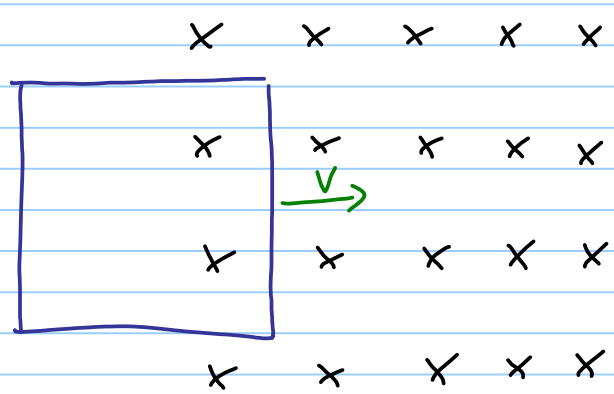
Note Title 31/05/2011

1)



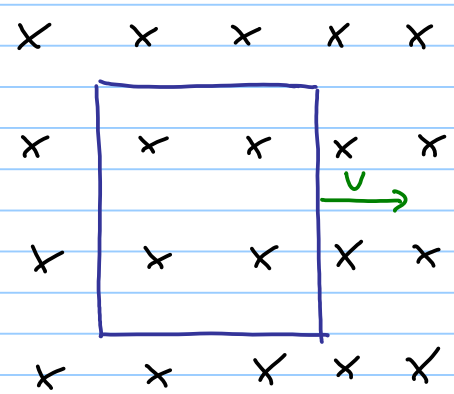
A conductor moves through a magnetic field as shown. If the circuit has a resistance of 15Ω, find the magnitude and direction of the current.

2.) a.



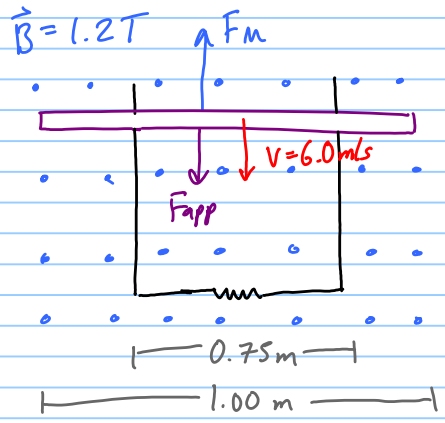
A loop of wire is entering a magnetic field as shown. What is the direction of the induced current?

b.



Eventually the entire loop is in the field. What is the direction of current flow at this point?

1)



A conductor moves through a magnetic field as shown. If the circuit has a resistance of 15 Ω, find the magnitude and direction of the current.

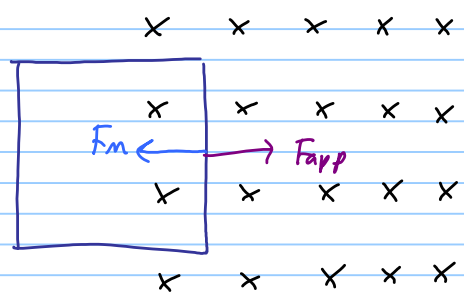
$\mathcal{E} = Blv = (1.2T)(0.75m)(6.0m/s)$

$= 5.4V$ ✓

$\mathcal{E} = IR \quad I = \frac{5.4V}{15\Omega} = 0.36 A$ ✓

From RHR current is counter clockwise ✓

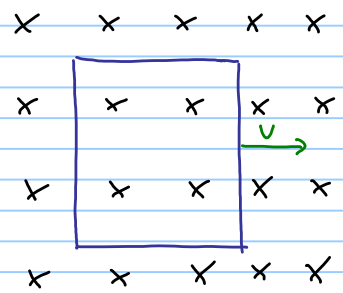
2.) a.



A loop of wire is entering a magnetic field as shown. What is the direction of the induced current?

counter clockwise ✓

b.



Eventually the entire loop is in the field. What is the direction of current flow at this point?

Once it is completely in the field there is no change in flux ∴ $\mathcal{E} = 0$

∴ $I = 0$ ✓
(no current)