**IB Physics**

**FA 21.1 - Lenz's Law**

Name

Favorite Slogan

**Find the direction of the induced current (CW or ACW) "." = out of the page, "x" = into the page)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1** | CW | ACW  B:  x x x x x x x  x x x x x x x  x x x x x x x  x x x x x x x | ACW | CW  B:  x x x x x x x  x x x x x x x  x x x x x x x  x x x x x x x |
| **2** | **B increases**  CW | **B decreases**  CW  B  x x x x x x x  x x x x x x x  x x x x x x x  x x x x x x x | **The magnet moves as shown. Which way does the current flow on the front of the coil?**  down  N S | **The magnet moves as shown. Which way does the current flow on the front of the coil?**  down  S N |
| **3** | **Current increases** I CW | **Current decreases**  ACW I | **Current in outer loop increases**  CW | **Current in inner loop increases**  CW |
| **4** | **Which end of the wire is +?**  bottom  B:  . . . . . . .  . . . . . . .  . . . . . . .  . . . . . . . | **Which end of the wire is +?**  right  B  x x x x x x x  x x x x x x x  x x x x x x x  x x x x x x x | **CW or ACW?**  cw  B:  . . . . . . .  . . . . . . .  . . . . . . .  . . . . . . . | **CW or ACW**  cw  B  x x x x x x x  x x x x x x x  x x x x x x x  x x x x x x x |

5. The 12.0 cm diameter loop below has 58 windings, and is pulled from the 3.10 T magnetic field in 0.0150 s. What is the average EMF, and what direction does the current flow? (136 V, CW)

B

x x x x x x x

x x x x x x x

x x x x x x x

x x x x x x x