Name: _____ Section: ____

Tuesday, November 3

**Quiz 10A**

A circular wire loop of radius 40 cm is in the plane of this paper. There is magnetic field with magnitude $B = \left(3.0\ \text{T/s}^2\right)t^2$ directed into the paper. At $t = 2.0$ s, a current of 2.0 A is observed in the wire.

a. What is the resistance of the wire?

b. In which direction does the current flow? Explain.

c. If the same loop was reshaped to a square (with the same perimeter as the circle), the induced current would be (larger than/the same as/smaller than) with the circular loop. Explain.

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**Quiz 10B**

A square wire loop of side 40 cm is in the plane of this paper. There is magnetic field with magnitude $B = \left(3.0\ \text{T/s}^2\right)t^2$ directed out of the paper. At $t$ = 2.0 s, a current of 2.5 A is observed in the wire.

a. What is the resistance of the wire?

b. In which direction does the current flow? Explain.

c. If the same loop was reshaped to a square (with the same perimeter as the circle), the induced current would be (larger than/the same as/smaller than) with the circular loop. Explain.

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Tuesday, November 3

**Quiz 10C**

A circular wire loop of radius 20 cm is in the plane of this paper. There is magnetic field with magnitude $B = \left(3.0\ \text{T/s}^2\right)t^2$ directed into the paper. The resistance of the wire is 3.0 Ω.

a. What is the current in the wire at $t$ = 2.0 s?

b. In which direction does the current flow? Explain.

c. If the same length of wire was used to make a double circular loop (2 turns), the induced current would be (larger than/the same as/smaller than) with the single loop. Explain.

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Tuesday, November 3

**Quiz 10D**

A circular wire loop of radius 20 cm is in the plane of this paper. There is magnetic field with magnitude $B = (2.0\ \text{T})\exp\left(-\frac{t}{2.0\ \text{s}}\right)$ directed into the paper. The resistance of the wire is 3.0 Ω.

a. What is the current in the wire at $t = 2.0$ s?

b. In which direction does the current flow? Explain.

c. If the same loop was reshaped to a square (with the same perimeter as the circle), the induced current would be (larger than/the same as/smaller than) with the circular loop. Explain.