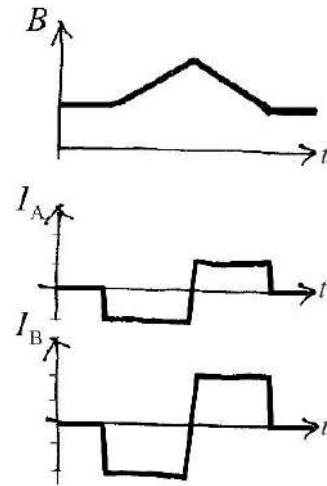


Your friend is telling you about her experiments.

*I used two circular loops (A and B) of the same diameter. I placed each loop (one at the time) in a device that creates uniform magnetic field and allows changing the magnitude of the field. I first increased and then decreased the B-field magnitude as shown in the top graph, exactly the same way for each loop. At the same time, I measured the induced current through the loop, using the same current measuring device for each loop. The results are shown in the bottom two graphs. The scales on the horizontal axes of all three graphs are the same and the scales on the vertical axes of the current-versus-time graphs are the same. Why do you think I got different induced currents?*



Help your friend by answering the following questions.

- Are the current-versus-time graphs consistent with the  $B$ -field-versus-time graph? Explain.
- Propose different (at least two) explanations for the differences in the induced currents.
- Propose testing experiments or measurements to obtain additional data to test your explanations.
- Make predictions for the outcomes of each testing experiments based on each explanations under test.
- What do you think, which testing experiment is better? Why?