NAME _____ DATE _____

Scenario

A pipe emerges from the floor as shown at the right. Carlos, Blake, and Angela are asked to determine both the length of the pipe and if the pipe is open or closed at the other end. The students cannot see the other end of the pipe. They use a tone generator and a sound intensity meter to measure the intensity of the sound resonating from the pipe as a function of frequency. Blake holds the tone generator and intensity meter over the end of the pipe and records the data plotted below. The speed of sound in the room is 340 m/s.
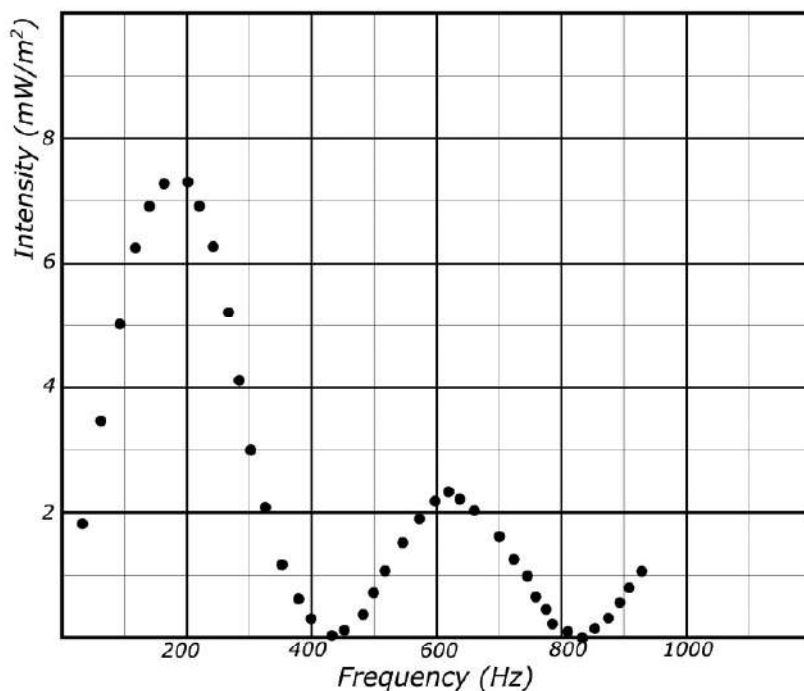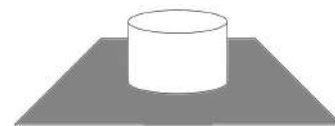
PART A: From the graph, is the pipe closed or open?

_____ Closed   _____ Open

Justify your reasoning.

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PART B: Explain in a clear, coherent paragraph-length response how the student can use the graph to determine the length of the pipe.

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