IAME	DATE	

Scenario 1

Carlos has a guitar, an instrument with strings of specific tension and length. He plucks a string, which causes a fundamental standing wave of initial frequency f , wavelength λ , and wave speed v_i to form on the string. He then turns a knob to tighten the string without changing its length. When \dot{C} arlos plucks the string again, the fundamental standing wave on the string has final frequency $f_{,}$ wavelength λ_{f} , and wave speed v_{f} .

Argumentation

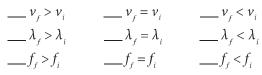
PART A: Mark each correct relationship:

Explain your choices.

Scenario 2
Dominique plays a trombone, an instrument where the length can be made longer or shorter to be able
to play different fundamental frequencies. When she plays the trombone, it causes a fundamental
standing wave of initial frequency f_i , wavelength λ_i , and wave speed v_i to form in the air inside the
instrument. She then extends the trombone slide so that the entire length of the instrument increases.
When Dominique plays the trombone again, the fundamental standing wave in the air has final

frequency f_{f} , wavelength λ_{f} , and wave speed v_{f} .

PART R.	Mark each	correct re	lationship
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Explain your choices.

Scenario 3

Angela uses a special type of speaker to play a single tone underwater. The tone has frequency f, wavelength λ_i , and wave speed ν_i . When the sound wave leaves the water and enters air, it has a frequency f_f , wavelength λ_f , and wave speed v_f .

PART C: Mark each correct relationship:

Explain your choices.