

38. The n^{th} resonant frequency of string A is

$$f_{n,A} = \frac{v_A}{2l_A}n = \frac{n}{2L}\sqrt{\frac{\tau}{\mu}} ,$$

while for string B it is

$$f_{n,B} = \frac{v_B}{2l_B}n = \frac{n}{8L}\sqrt{\frac{\tau}{\mu}} = \frac{1}{4}f_{n,A} .$$

Thus, we see $f_{1,A} = f_{4,B}$ and $f_{2,A} = f_{8,B}$.