Q1 - Answer = C

Q2 - Problem A - Last name A-K

he C string on a cello produces a fundamental frequency of
5.4 Hz. If its linear density is 1.56×10^{-2} kg/m and its length 0.8
, what is the tension in the string?

A. 121 N $f_n = (T/\mu)^{1/2} n/(2L)$; for $n = 1$

B. 171 N $T = (f_1 \times 2 \times L)^2 \mu = (65.4 \times 2 \times 0.8)^2 \times 1.56 \times 10^{-2}$

C. 267 N   = 171 N

D. 343 N

E. 7 x 10^5N

Q2 - Problem B - Last Name L-Z

A wire of linear density 0.0140 kg/m at a tension of 323 N is stretched between two poles 19.0 m apart. What is the lowest frequency sound this wire could produce?

A. 2 Hz

B. **4 Hz**

C. 0.25 Hz

D. 152 Hz

E. 76 Hz

$f_n = (T/\mu)^{1/2}n/(2L); n = 1$

$f_1 = (323/0.014)^{1/2}/(2\times19) = 4$ Hz