Q1 - Answer = c

Q2 - Problem A - Last name A-K

A pipe, open at both ends resonates at a first harmonic frequency f_{open}. If one end is closed its first harmonic frequency is f_{closed}. How do the two frequencies compare?

A. $f_{open} = f_{closed}$

B. $\underline{f_{open} = 2\, f_{closed}}$

C. $f_{closed} = 2\, f_{open}$

D. $f_{open} = 3/2\, f_{closed}$

E. $f_{closed} = 3/2\, f_{open}$

$f_{open}=v/(2L)$ & $f_{closed}=v/(4L)$

Thus $2f_{closed}=f_{open}$

Q1 - Answer = c
Q2 - Problem B - Last Name L-Z

- Two pipes, one open on both ends with length L_{open}, the other closed on one end with length L_{closed}, have identical first harmonic resonant frequencies. How do the two lengths compare?

A. $L_{open} = L_{closed}$

B. $L_{open} = 2\ L_{closed}$

C. $L_{closed} = 2\ L_{open}$

D. $L_{open} = 3/2\ L_{closed}$

E. $L_{closed} = 3/2\ L_{open}$

$f = v/(2L_{open}) = v/(4L_{closed})$

$L_{open} = 2L_{closed}$