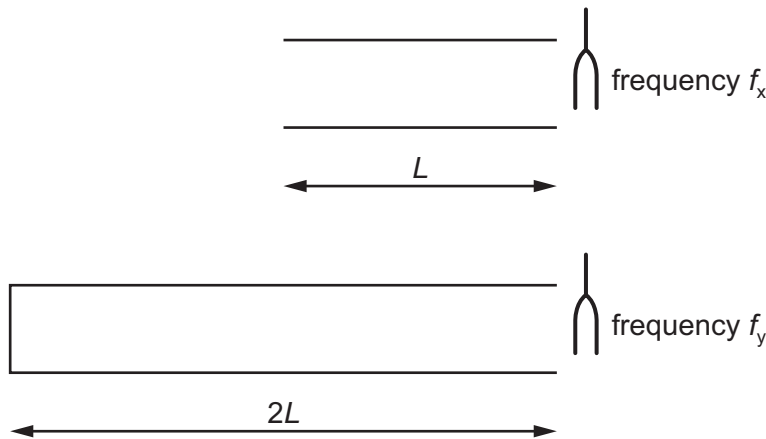


- 28** A tube of length  $L$  is open at both ends. A stationary wave is set up in this tube when a tuning fork vibrating with frequency  $f_x$  is held at one end. This is the lowest frequency of stationary wave that can be formed in this tube.

Another tube of length  $2L$  is closed at one end. A stationary wave is set up in this tube when a tuning fork vibrating with frequency  $f_y$  is held at the open end. This is the lowest frequency of stationary wave that can be formed in this tube.



Assume the end correction for each tube is negligible.

Which equation is correct?

**A**  $f_x = \frac{f_y}{4}$

**B**  $f_x = \frac{f_y}{2}$

**C**  $f_x = 2f_y$

**D**  $f_x = 4f_y$