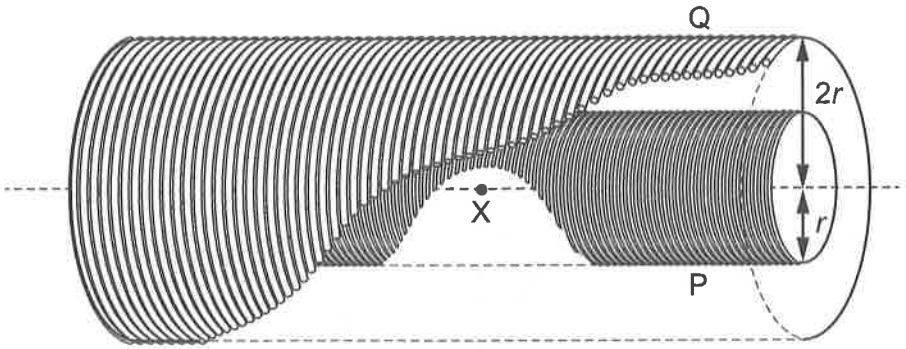
26 A long solenoid P is mounted co-axially inside another solenoid Q of the same length. Q has twice the radius of P.



The two solenoids are connected in series to a power supply. The magnetic field created by P is in the opposite direction to the magnetic field created by Q.

What is the ratio of the number of turns of wire on P to the number of turns on Q to ensure that the magnetic flux density at point X inside P is always zero?

A 1:1 **B** 1:4 **C** 2:1 **D** 4:1