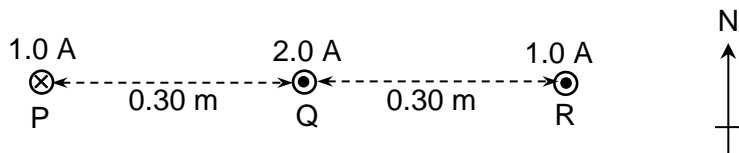24 Three long vertical wires P, Q and R are carrying currents 1.0 A, 2.0 A and 1.0 A, respectively. The diagram shows the top view of the wires with the directions of their currents and the distances between them. The component of the Earth's magnetic field that is parallel to the Earth's surface is 2.0×10^{-5} T.

What is the magnitude and direction of the force per unit length acting on wire Q?

	magnitude	direction
A	1.3×10^{-6} N m^{-1}	East
B	2.7×10^{-6} N m^{-1}	East
C	1.9×10^{-5} N m^{-1}	West
D	3.7×10^{-5} N m^{-1}	West