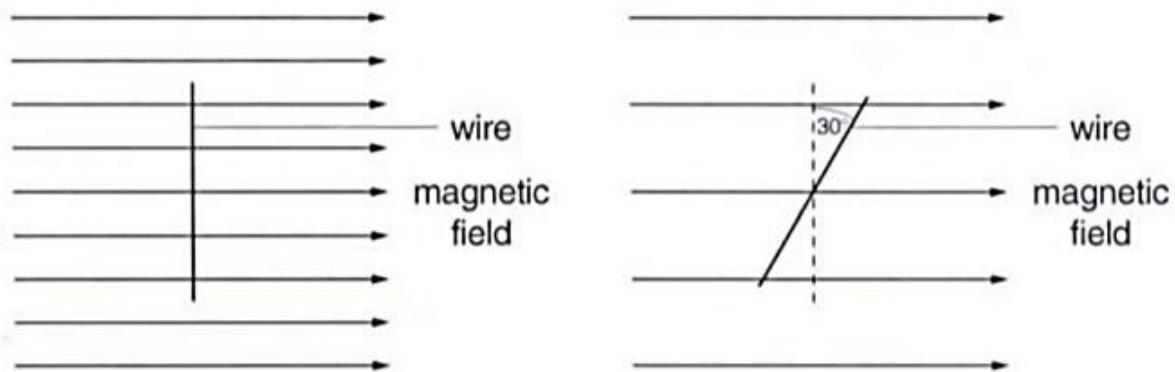


- 24** A straight, horizontal, current-carrying wire lies at right angles to a horizontal magnetic field. The field exerts a vertical force of 8.0 mN on the wire.

The wire is rotated, in its horizontal plane, through  $30^\circ$  as shown. The flux density of the magnetic field is halved.



What is the vertical force on the wire?

- A** 2.0 mN      **B** 3.5 mN      **C** 4.6 mN      **D** 8.0 mN