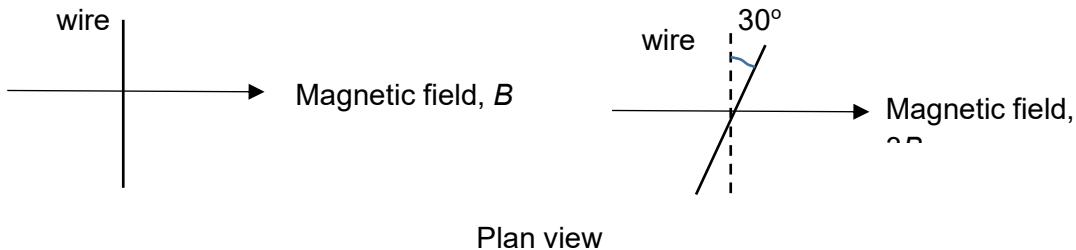


- 20** A straight, horizontal, current-carrying wire lies at right angles to a horizontal uniform magnetic field  $B$ . The field exerts a vertical force of 8.0 mN on the wire. The wire is rotated, in its horizontal plane, through  $30^\circ$  as shown. The flux density of the magnetic field is increased to  $3B$ .



What is the new vertical force on the wire?

- A** 7.0 mN      **B** 12 mN      **C** 21 mN      **D** 24 mN