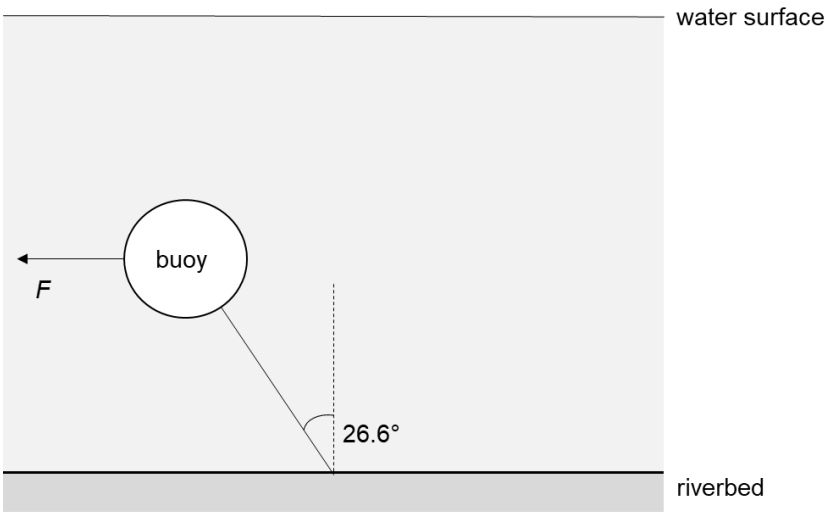
5 A fully submerged buoy is tethered by a rope to a riverbed. The current of the river exerts a constant horizontal force of *F* on the buoy causing the rope to make an angle of 26.6° to the vertical, as shown. The buoy is in equilibrium.



The buoy has a volume of 0.500 m^3 and a density of 390 kg m^{-3}.

The river water has a density of 1000 kg m^{-3}.

What is the force *F* exerted by the river current on the buoy?

A 1500 N **B** 3830 N **C** 6000 N **D** 9810 N