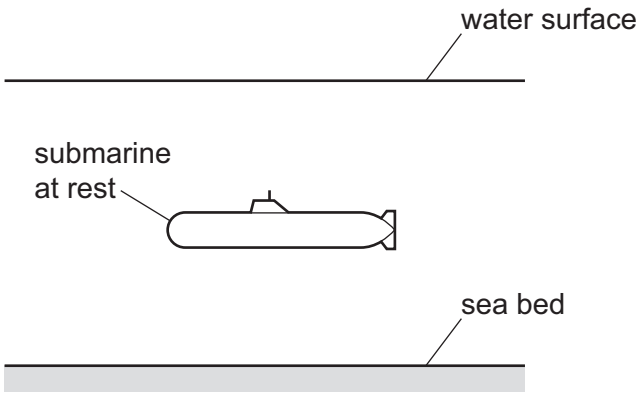
8 A submarine of total mass 3200 kg is at rest underwater.



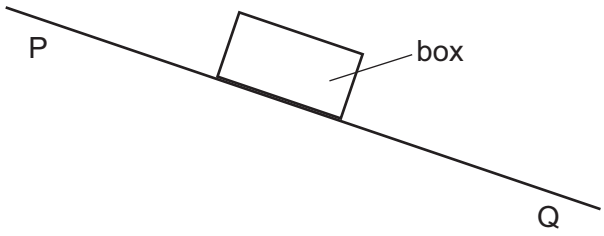
The total mass of the submarine is suddenly decreased by 200 kg by pumping water out of the submarine horizontally in a negligible time. The upthrust acting on the submarine is unchanged.

The change in the total weight of the submarine causes it to accelerate vertically upwards.

What is the initial upwards acceleration of the submarine?

A $0.613\,m\,s^{-2}$ **B** $0.654\,m\,s^{-2}$ **C** $9.81\,m\,s^{-2}$ **D** $10.5\,m\,s^{-2}$

9 A box in air slides with increasing speed down a rough slope from point P to point Q.



The slope surface exerts a constant frictional force on the box.

As the box moves from P to Q, there are changes to the magnitudes of its acceleration and the total resistive force acting on it.

Which row describes the changes?

	magnitude of acceleration	magnitude of total resistive force
A	increases	decreases
B	decreases	decreases
C	increases	increases
D	decreases	increases