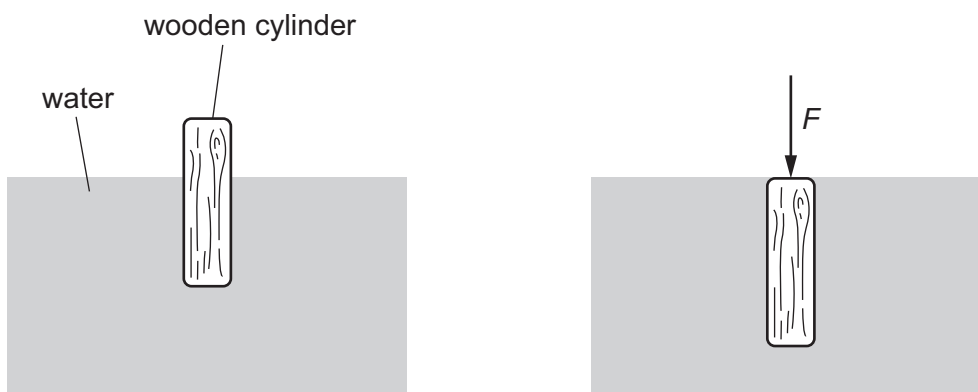


- 15 A wooden cylinder floats partially submerged in a bath of water. A force F is applied to the cylinder until it is just fully submerged.



Which statement is **not** correct?

- A Some of the water gains gravitational potential energy.
 - B The cylinder loses gravitational potential energy.
 - C Work is done by force F on the cylinder.
 - D Work is done by the upthrust on the cylinder.
- 16 A system has a useful power output of 4.0 W and a wasted power of 16 W.
- What is the efficiency of the system?
- A 5.0%
 - B 20%
 - C 25%
 - D 80%
- 17 A parachutist is falling towards the ground at a constant speed v . The rate at which she is losing gravitational potential energy is R .

The acceleration of free fall is g .

What is the mass of the parachutist?

- A $\frac{gv}{R}$
 - B $\frac{R}{gv}$
 - C $\frac{2R}{v^2}$
 - D $\frac{v^2}{2R}$
- 18 A copper wire of diameter 1.6 mm is stretched within its limit of proportionality by a tensile force of 430 N.

The Young modulus of copper is 130 GPa.

What is the strain in the wire?

- A 4.1×10^{-4}
- B 1.3×10^{-3}
- C 1.6×10^{-3}
- D 5.2×10^{-3}