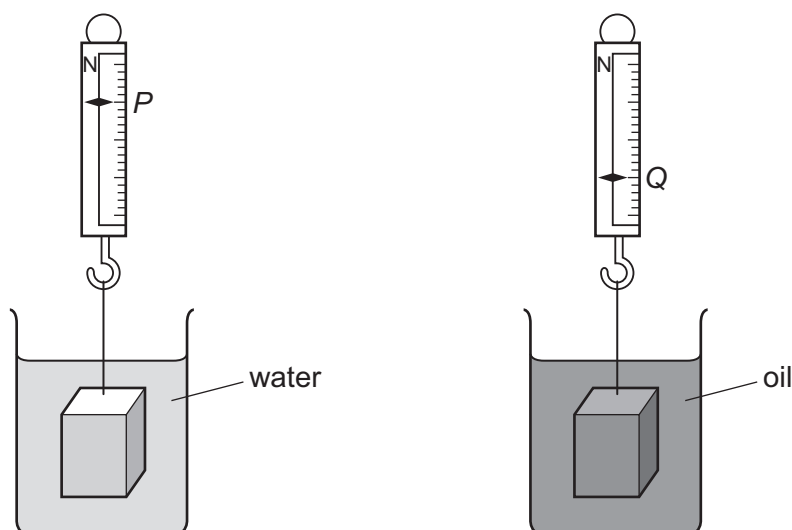


- 14 An object of weight W is suspended from a newton meter. When the object is completely immersed in water, the newton meter reads P . When the object is completely immersed in oil, the newton meter reads Q .



What is the ratio $\frac{\text{density of oil}}{\text{density of water}}$?

- A $\frac{W-P}{Q-P}$ B $\frac{Q-P}{W-P}$ C $\frac{W-P}{W-Q}$ D $\frac{W-Q}{W-P}$
- 15 A crate of mass 50 kg is pushed a distance of 6.0 m along a horizontal surface against a constant resistive force of 70 N. The crate moves at a constant speed. It is then lifted, at a constant speed, through a vertical distance of 1.2 m onto the back of a lorry.

What is the total work done in this process?

- A 420 J B 480 J C 590 J D 1000 J
- 16 The input power to a television is P_{in} . The useful sound and light power emitted by the television is P_{out} .

What is the efficiency of the television?

- A $\frac{P_{\text{out}}}{P_{\text{in}}}$ B $\frac{P_{\text{in}} - P_{\text{out}}}{P_{\text{in}}}$ C $\frac{P_{\text{in}}}{P_{\text{out}}}$ D $\frac{P_{\text{out}}}{P_{\text{in}} - P_{\text{out}}}$
- 17 A builder holding a brick of mass 3000 g drops the brick on his foot.

What is a reasonable estimate of the change in gravitational potential energy of the brick?

- A 30 J B 300 J C 3000 J D 30 000 J