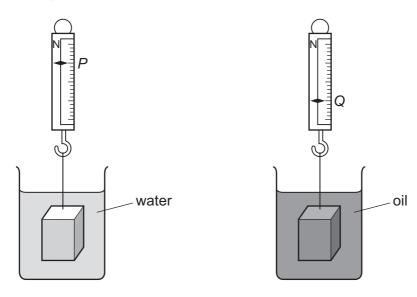
14 An object of weight W is suspended from a newton meter. When the object is completely immersed in water, the newton meter reads P. When the object is completely immersed in oil, the newton meter reads Q.



What is the ratio density of water

- 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

What is the efficiency of the television?

- $\mathbf{B} \quad \frac{P_{\mathsf{in}} P_{\mathsf{out}}}{P_{\mathsf{in}}} \qquad \mathbf{C} \quad \frac{P_{\mathsf{in}}}{P_{\mathsf{out}}} \qquad \qquad \mathbf{D} \quad \frac{P_{\mathsf{out}}}{P_{\mathsf{in}} P_{\mathsf{out}}}$
- 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
- 30000J