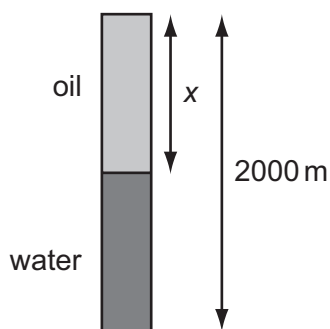


- 21** A bore hole of depth 2000 m contains both oil and water as shown. The pressure at the bottom is 17.5 MPa. The density of the oil is  $830 \text{ kg m}^{-3}$  and the density of the water is  $1000 \text{ kg m}^{-3}$ .



What is the depth  $x$  of the oil?

- A** 907 m      **B** 1000 m      **C** 1090 m      **D** 1270 m
- 22** What is represented by the gradient of a graph of force (vertical axis) against extension (horizontal axis)?
- A** elastic limit  
**B** spring constant  
**C** stress  
**D** the Young modulus
- 23** What is the unit of the Young modulus?
- A**  $\text{Nm}^{-1}$       **B**  $\text{Nm}$       **C**  $\text{Nm}^{-2}$       **D**  $\text{Nm}^2$
- 24** A wave motion is described by the oscillation of particles.
- What is the name given to the number of complete oscillations of a particle in one second?
- A** amplitude  
**B** frequency  
**C** wavelength  
**D** wave speed