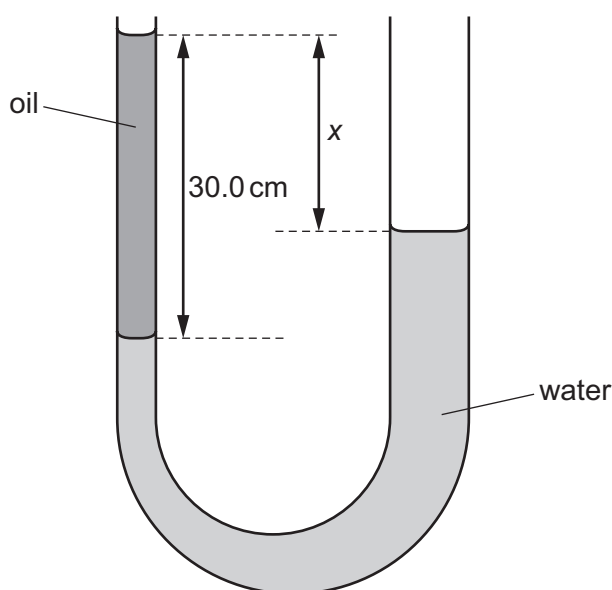


- 18 Brownian motion can be demonstrated by illuminating smoke particles inside a closed, transparent container. When the particles are viewed using a microscope, bright specks of light are observed to move with constant, random motion.

What **cannot** be inferred from this observation?

- A Air molecules are in constant motion.
 - B Air molecules are in random motion.
 - C Air pressure is due to air molecules colliding with the container.
 - D The mass of an air molecule is much less than the mass of a smoke particle.
- 19 A U-tube has one arm of area of cross-section A and the other of cross-section $4A$. The tube contains water of density 1000 kg m^{-3} and oil of density 850 kg m^{-3} , as shown.



The column of oil on top of the water in the left-hand arm is of length 30.0 cm .

What is the difference in height x between the levels in the two arms of the tube?

- A 4.5 cm
- B 6.2 cm
- C 23.8 cm
- D 25.5 cm