

- 19** Jupiter's moon Europa is an ideal candidate in the solar system to harbour life. It is at an average distance of 6.3×10^8 km from Earth.

An astronomer builds an optical telescope with a limit of resolution that will allow him to see if there are living creatures on Europa. He estimates that creatures on Europa, should they exist, would have linear dimension of about one metre.

The wavelength of light averages 600 nm.

What is the diameter of the aperture of such a telescope?

- A** 3.8×10^{-1} m **B** 3.8×10^2 m **C** 3.8×10^5 m **D** 3.8×10^8 m