

**17** A telescope with an aperture of 45 cm receives light of wavelength 630 nm from a binary star system which can just be resolved by the telescope.

The two stars are  $5.9 \times 10^{16}$  m from the telescope.

How far apart are the two stars?

**A**  $2.4 \times 10^{10}$  m

**B**  $8.3 \times 10^{10}$  m

**C**  $2.4 \times 10^{13}$  m

**D**  $8.3 \times 10^{13}$  m

**18** A stationary sound wave is formed inside an open tube of length 0.68 m