

- 19** A double star is at a distance of 20 light years from the Earth. A telescope with a diameter of 3.0 m is used to view the star.

A light year is the distance light travels in a vacuum in one year.

What is the approximate minimum separation between the two stars of the double star that can be detected by the telescope?

- A** $5.0 \times 10^8 \text{ m}$ **B** $1.0 \times 10^9 \text{ m}$ **C** $3.5 \times 10^{10} \text{ m}$ **D** $3.5 \times 10^{11} \text{ m}$