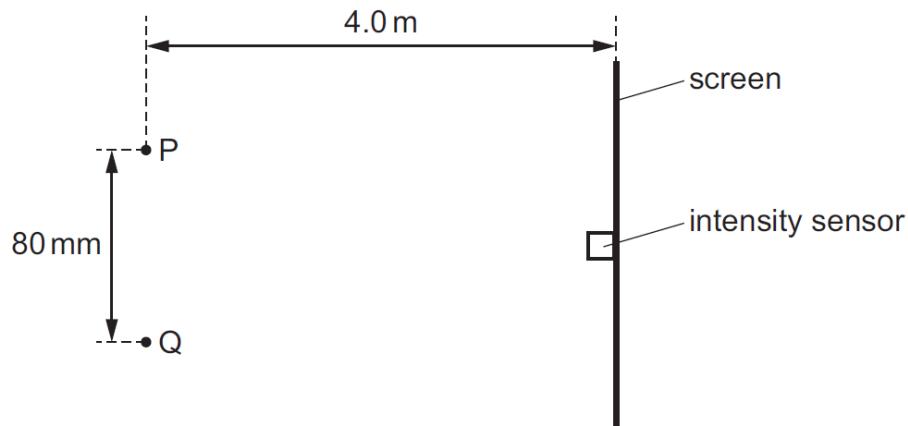


- 17 A source of coherent light is incident on two slits, P and Q, which are placed 80 mm apart. The light has a single frequency of  $1.5 \times 10^{12}$  Hz. The light from the slits meets on a screen that is a distance of 4.0 m from the slits. The screen is parallel to a line joining the slits.



not to scale

An intensity sensor is placed on the screen at the midpoint of the interference pattern such that the intensity reading is a maximum. The intensity sensor is moved along the screen.

The sensor travels through two intensity minima, two intensity maxima and stops in the middle of the third intensity minimum.

Which distance does the sensor move through?

- A** 4.0 mm      **B** 10 mm      **C** 25 mm      **D** 50 mm