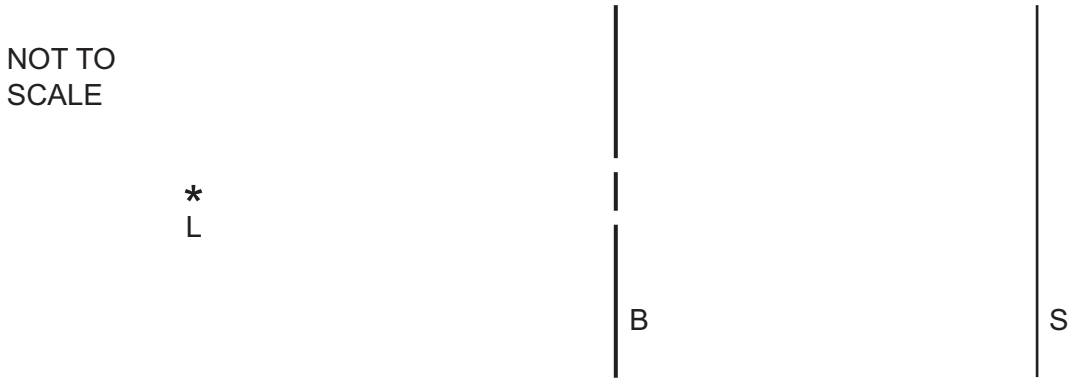
28 The diagram shows a view from above of a double-slit interference demonstration.

L is a monochromatic light source with a vertical filament. B is a barrier with two narrow vertical slits and S is a screen upon which interference fringes form.



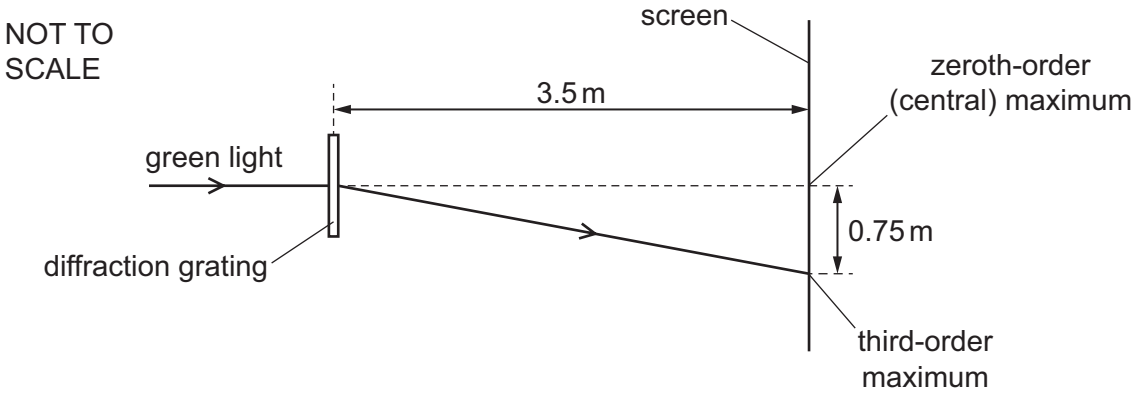
The intensity is I at the point on the screen where the centre of the fringe pattern forms.

When one of the slits is covered, what is the intensity at the same point on the screen?

A $\frac{I}{\sqrt{2}}$ **B** $\frac{I}{2}$ **C** $\frac{I}{2\sqrt{2}}$ **D** $\frac{I}{4}$

29 Green light of wavelength 550 nm is incident normally on a diffraction grating and produces a diffraction pattern on a screen placed 3.5 m from the diffraction grating.

The **third**-order maximum on the screen is a distance of 0.75 m from the zeroth-order (central) maximum.



What is the distance between two adjacent slits in the diffraction grating?

A 2.6×10^{-6} m

B 7.7×10^{-6} m

C 7.9×10^{-6} m

D 1.0×10^{-5} m