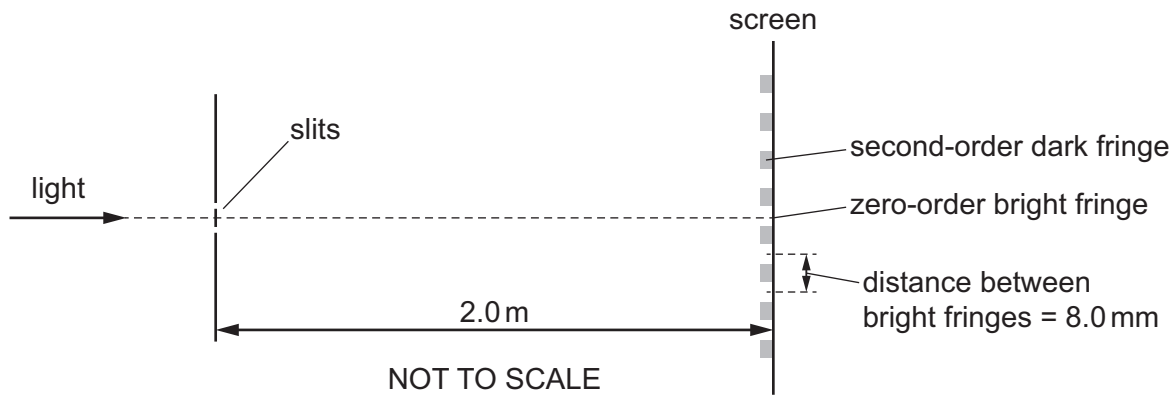
29 Light of a single frequency is incident on a pair of narrow slits that are a distance of 0.10 mm apart. A series of bright and dark fringes is observed on a screen a distance of 2.0 m away. The distance between adjacent bright fringes is 8.0 mm.



What is the path difference of the light waves from the two slits that meet at the second-order **dark** fringe?

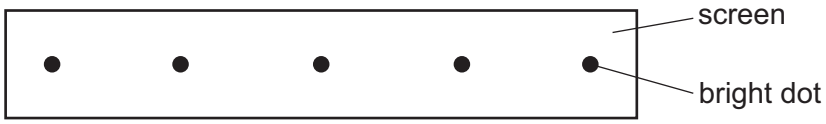
A 2.0×10^{-7} m

B 4.0×10^{-7} m

C 6.0×10^{-7} m

D 8.0×10^{-7} m

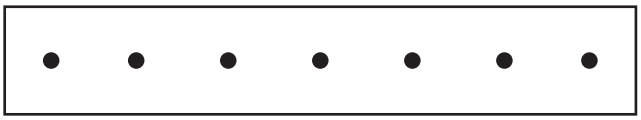
30 Red light of a single wavelength passes through a diffraction grating. Bright dots are formed on a screen, as shown.



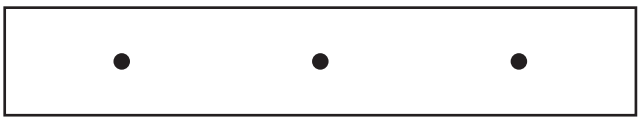
The red light is replaced with white light.

Which diagram, drawn to the same scale, shows a possible pattern of bright light on the screen?

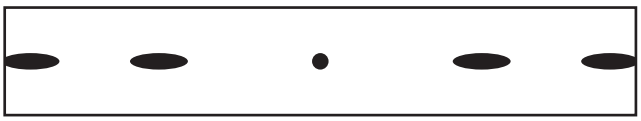
A



B



C



D