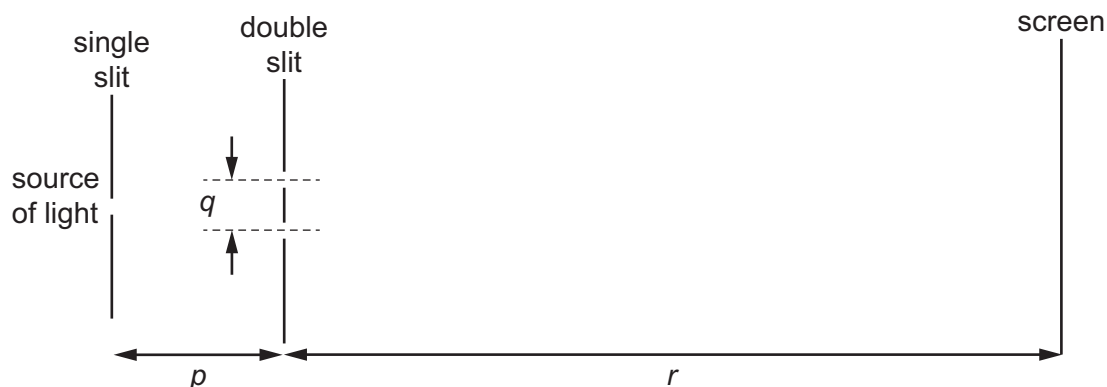


- 28 A teacher sets up the apparatus shown to demonstrate a double-slit interference pattern on a screen.



Which change to the apparatus will increase the fringe spacing?

- A decrease the distance p
 - B decrease the distance q
 - C decrease the distance r
 - D decrease the wavelength of the light
- 29 Light of a single unknown wavelength and blue light of a single wavelength are both incident normally on a diffraction grating. Two diffraction patterns are produced, one for each wavelength of light.

The third-order maximum for the blue light occurs at the same angle as the second-order maximum for the light of unknown wavelength. The wavelength of the blue light is 480 nm.

What is the unknown wavelength?

- A 320 nm
 - B 720 nm
 - C 960 nm
 - D 1440 nm
- 30 What is the electric field strength in a region where a proton accelerates at 2.00 m s^{-2} due to the field?
- A 11.4 pV m^{-1}
 - B 5.22 nV m^{-1}
 - C 10.4 nV m^{-1}
 - D 20.9 nV m^{-1}