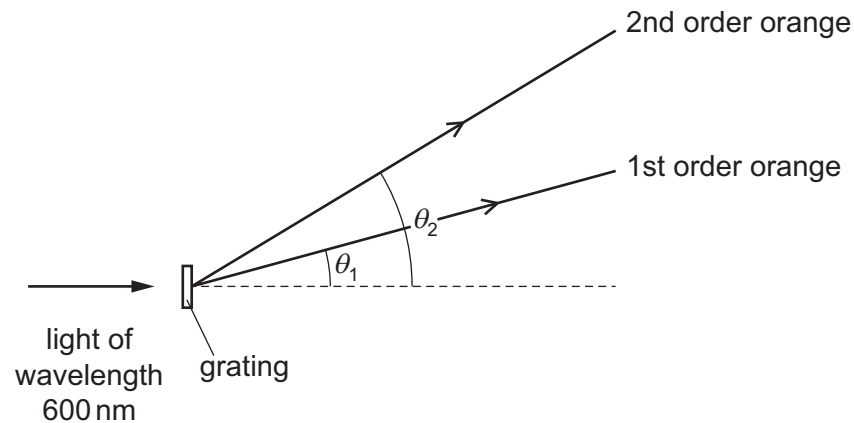


- 29 A diffraction grating experiment is set up using orange light of wavelength 600 nm. The grating has a slit separation of  $2.00\ \mu\text{m}$ .



What is the angular separation ( $\theta_2 - \theta_1$ ) between the first and second order maxima of the orange light?

- A  $17.5^\circ$                       B  $19.4^\circ$                       C  $36.9^\circ$                       D  $54.3^\circ$
- 30 Two horizontal parallel plate conductors are separated by a distance of 5.0 mm in air. The lower plate is earthed and the potential of the upper plate is +50 V.

What is the electric field strength  $E$  at a point midway between the plates?

- A  $1.0 \times 10^4\ \text{V m}^{-1}$  downwards  
B  $1.0 \times 10^4\ \text{V m}^{-1}$  upwards  
C  $2.0 \times 10^4\ \text{V m}^{-1}$  downwards  
D  $2.0 \times 10^4\ \text{V m}^{-1}$  upwards