

**28** An electromagnetic wave is incident normally on a diffraction grating.

A second-order maximum is produced at an angle of  $30^\circ$  to the direction of the incident light.

The grating has 5000 lines per cm.

What is the wavelength of the wave?

- A**  $2.5 \times 10^{-7} \text{ m}$     **B**  $5.0 \times 10^{-7} \text{ m}$     **C**  $1.0 \times 10^{-6} \text{ m}$     **D**  $5.0 \times 10^{-5} \text{ m}$