

**29** A parallel beam of light consists of light of wavelength 420 nm and light of wavelength 630 nm.

The light is incident normally on a diffraction grating.

The diffraction maxima for the two wavelengths overlap only at an angle of  $31^\circ$  from the direction of the incident light beam.

What could be the line spacing of the diffraction grating?

**A**  $1.2 \mu\text{m}$

**B**  $1.6 \mu\text{m}$

**C**  $2.4 \mu\text{m}$

**D**  $3.7 \mu\text{m}$