

**22** Monochromatic light of wavelength 590 nm is incident normally on a diffraction grating. The angle between the two second-order diffracted beams is  $43^\circ$ .

What is the spacing of the lines on the grating?

**A**  $0.87 \mu\text{m}$

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

**C**  $1.7 \mu\text{m}$

**D**  $3.2 \mu\text{m}$