

**28** A diffraction grating has  $N$  lines per unit length and is placed at  $90^\circ$  to monochromatic light of wavelength  $\lambda$ .

What is the expression for  $\theta$ , the angle to the normal to the grating at which the third order diffraction peak is observed?

**A**  $\sin \theta = \frac{1}{3N\lambda}$

**B**  $\sin \theta = 3N\lambda$

**C**  $\sin \theta = \frac{N\lambda}{3}$

**D**  $\sin \theta = \frac{3\lambda}{N}$

**29** Light of wavelength 700 nm is incident on a pair of slits, forming fringes 2.0 mm apart on a screen.