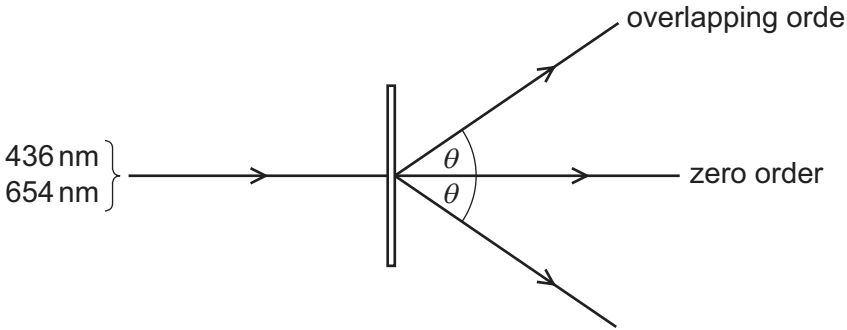
**29** A beam of light consists of two wavelengths of 436 nm and 654 nm. A diffraction grating of $5.00 \times 10^5$ lines $m^{-1}$ produces a diffraction pattern in which the second order of one of these wavelengths occurs at the same angle $\theta$ as the third order of the other wavelength.




What is the angle $\theta$?

**A** 19.1° **B** 25.8° **C** 40.8° **D** 78.8°