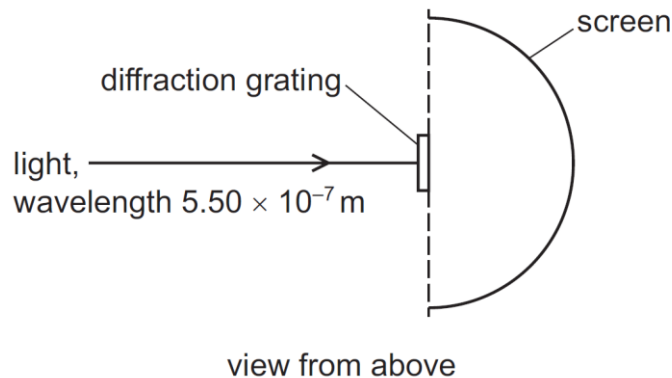


- 18** Light of wavelength $5.50 \times 10^{-7} \text{ m}$ from a laser is incident normally on a diffraction grating. The diffracted light is incident on a semicircular screen, as shown in the view from above.



A total of 9 bright dots are formed on the screen.

The grating is at the centre of the semicircle. The lines of the grating are vertical. The separation between adjacent lines in the grating is d .

What is a possible value of d ?

- A** $2.25 \times 10^{-6} \text{ m}$ **B** $2.80 \times 10^{-6} \text{ m}$ **C** $4.40 \times 10^{-6} \text{ m}$ **D** $4.95 \times 10^{-6} \text{ m}$

- 19** A double star is at a distance of 20 light years from the Earth. A telescope with a diameter of