

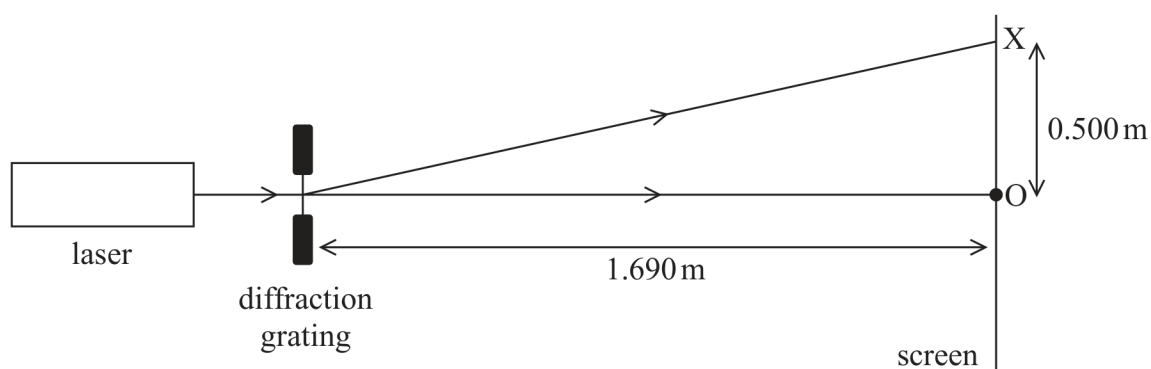
- 14 A laser, a diffraction grating and a screen are set up as shown. The laser emits monochromatic light.



When the laser is switched on, a series of bright dots is seen on the screen.

- (a) The diagram below shows the position of the central dot at O. The next bright dot appears at position X.

The diffraction grating has 450 lines per mm.



Determine the wavelength of the light from the laser.

(4)

Wavelength =

(b) Explain why a series of bright dots is seen on the screen.

(3)

.....

.....

.....

.....

.....

.....

(c) The laser is replaced by a source producing a parallel beam of bright white light.

Suggest what would now be observed on the screen.

(2)

.....

.....

.....

.....