**Q1**. A diffraction grating used at normal incidence gives a yellow line ( =6000A0)in a certain spectral order superimposed on a blue line ( =4800A0) of next higher order. If the angle of diffraction is sin-1(3/4) calculate the grating element.

**Given:-**  1=6000A0=6x10-5 cm;  2=4800A0=4.8 x 10-5cm ;

**Formula:-** ; n=1,2,3,4 …..

**Solution:-** for given and ; n α 1/

1

2

2

Therefore,

= =32 x 10-5 cm

**Ans:- The grating element is 3.2 x 10-4 cm .**