## **REFRACTION QUESTION**

1. **A ray of light strikes the boundary between kerosene of absolute refractive index 1.39 and glass of absolute refractive index 1.51. A diagram of the situation is shown below.**



(a) Determine the relative refractive index for light passing from kerosene into glass. (1.09).

**(b) If the angle of incidence of the ray is 33o, calculate the angle of refraction. (30o)**

**(c) The speed of the light in the glass is 1.99 x 108 ms-1, find the speed of light in the kerosene. (2.17 x 108 m/s)**

**(d) Given that the frequency of the light in the glass is 4.7 x 1014 Hz, find the wavelength of the light in the glass. (4.23 x 10-7 m)**

**(e) State the frequency of the light in the kerosene. (4.7 x 1014 Hz - When waves travel from one medium to another the frequency never changes. As waves travel into the denser medium, they slow down and wavelength decreases.)**