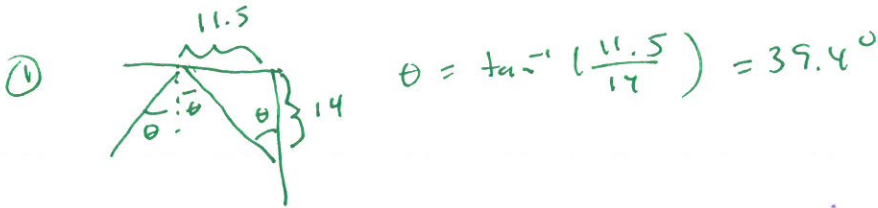


Class 12 - 33 1, 2, 11, 15



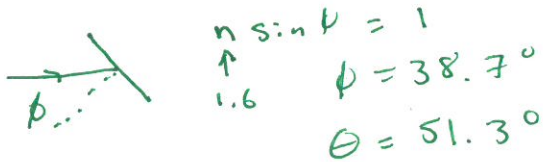
② (c)  $c = \frac{3 \times 10^8}{n} = \frac{3 \times 10^8}{1.34} = 2.24 \times 10^8 \text{ m/s}$

(d)  $\lambda = \frac{\lambda_0}{n} = \frac{(380 - 750)}{1.34} = (284 - 560) \text{ nm}$

(b) freq unchanged:  $f = \frac{3 \times 10^8}{(380 - 750) \times 10^{-9}} = 7.9 \times 10^{14} - 4 \times 10^{14} \text{ Hz}$

⑪  $n_x \sin 25^\circ = 1.33 \sin 48^\circ = 1 \sin \theta$   
 $n_x = 1.72 \approx 2.34$   $\theta = 81.3^\circ$

⑮



$1.6 \sin \phi = 1.33 \leftarrow$  bode likes 1.333  
 $\phi = 56.2$   
 $\theta = 33.8$   
 $\downarrow$   
 $33.6$