

HW  
24/6/21

SATQ

$$12a) RI_{\text{flint glass}} = \frac{c}{v_g} = \frac{3 \times 10^8}{1.86 \times 10^8} = \underline{1.613}$$

$$b) RI_{\text{crown glass}} = \frac{c}{v_{cg}} = \frac{3 \times 10^8}{1.97 \times 10^8} = \underline{1.522}$$

$$13a) \text{air } n_x = \frac{v_{\text{air}}}{v_x} = \frac{3 \times 10^8}{2 \times 10^8} = \underline{1.5}$$

$$b) \text{air } n_y = \frac{v_{\text{air}}}{v_y} = \frac{3 \times 10^8}{2.5 \times 10^8} = \underline{1.2}$$

$$c) x n_y = \frac{v_x}{v_y} = \frac{2 \cdot 10^8}{2.5 \times 10^8} = \underline{0.8}$$

$$14 \rightarrow v_{\text{medium}} = \frac{c}{RI_{\text{medium}}} = \frac{3 \times 10^8}{6/5} = \underline{2.5 \times 10^8 \text{ m/s}}$$

$$15 \rightarrow v_{\text{glass}} = \frac{c}{RI_{\text{gl}}} = \frac{3 \times 10^8}{1.5} = \underline{2 \times 10^8 \text{ m/s}}$$

$$16 \rightarrow RI_{\text{water}} = \frac{c}{v_w} = \frac{3 \times 10^8}{2.25 \times 10^8} = \underline{\frac{4}{3}}$$

$$17 \rightarrow v_{\text{diamond}} = \frac{c}{RI_{\text{diamond}}} = \frac{3 \times 10^8}{2.42} = \underline{1.24 \times 10^8 \text{ m/s}}$$

## MCQ

- 19) D
- 20) C
- 21) C
- 22) C
- 23) A
- 24) D
- 25) A
- 26) C
- 27) D
- 28) D