KUTTIPPURAM Sub dist.

# Silent BellS

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| Standard 10 | Subject : Physics | Class : 41 | Date : 21/12/2020 |
|---|---|---|---|
| Unit 5 : Refraction of light | | Worksheet No : 5.3 | Class link |

1.

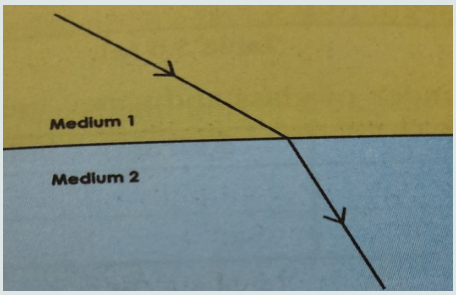


**Fig. is shown that the ray of light enters from medium 1 to medium 2. The relationship between speed of light and refractive index of media is denoted by the equation, $n_{21} = v_1/v_2$**

**a) Here $n_{21}$ means ?**

**b) What is $v_1$ and $v_2$**

**c) $n_{12}$ = .....**

**d) The refractive index of one medium with respect to another is called .....**

**e) What is mean by absolute refractive index ?**

**f) Absolute refractive index $n_m = c / v$, what is c and v ?**

**2. The refractive index of glass is 3/2. Calculate the speed of light in glass ?**
**( hint: The speed of light in vacuum is 3 x$10^8$m/s)**

**3. Refractive index of some media are given below. Analyse the table and answer the following questions**

| medium | Refractive index |
|---|---|
| Water | 1.33 |
| Sunflower oil | 1.47 |
| Diamond | 2.42 |
| Kerosene | 1.44 |

**a) Choose the media of highest and lowest optical density from the table**

**b) What are the media having highest and lowest velocity of light**

**4.Refractive index of some media are given below**

| media | Refractive index |
|---|---|
| water | 1.33 |
| Sunflower oil | 1.47 |
| Pyrex glass | 1.47 |
| Glycerin | 1.47 |

**Glycerin,water and sunflower oil are taken in two beakers A glass rod is dipped in one and a Pyrex glass rod is dipped in the other**

**a)Do the glass rod and Pyrex glass rod appear in the same way**

**b) Is which media are they visible. Justify your answer**