

Refraction of Light Calculations

1. A light ray travels into a substance at 40° and is refracted at an angle of 30° .
What is the index of refraction of the material?
2. The speed of light in a material is 2.4×10^8 m/s.
What is the index of refraction of the material?
3. The index of refraction of a material is 1.47. What is the speed of light in the material?
4. A ray of light passes from air ($n=1.00$) into water ($n=1.33$) at an angle of incidence of 40° .
What is the angle of refraction?
5. A light ray passes from a diamond ($n=2.42$) into air. What is the critical angle for the light ray in this situation?

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