

7.2 Wave Behaviours – Snell's Law

1. When light passes from air into water at an angle of 60° from the normal, what is the angle of refraction? (40.6°)
2. When light passes from air into water at an angle of 30° from the normal, what is the angle of refraction? (22.1°)
3. When light passes from water into diamond at an angle of 45° from the normal, what is the angle of refraction? (22.9°)
4. The refractive index of the lens of the human eye is 1.41. If a ray of light goes from the air into the lens at an angle of 55° , what is the angle of refraction? (35.5°)
5. In an experiment, a block of cubic zirconia is placed in water. A laser beam is passed from the water through the cubic zirconia. The angle of incidence is 50° , and the angle of refraction is 27° . What is the index of refraction of this cubic zirconia? (2.24)
6. A ray of light approaches a jar of honey at an angle of 30° . If the angle of refraction is 19.5° , what is the refractive index of honey? (1.50)
7. A block of amber is placed in water and a laser beam travels from the water through the amber. The angle of incidence is 35° while the angle of refraction is 24° . What is the index of refraction of amber? (1.88)
8. A red laser beam travels from flint glass into lemon oil. The angle of incidence is 40° and the angle of reflection is 44° . What is the refractive index of lemon oil? (1.49)