

Snell's Law Worksheet

Common Indices:

Air or vacuum: 1.00;
Water: 1.33;
CR39: 1.498;
Crown Glass: 1.523;
Barium glass: 1.60;
Flint glass: 1.70;
Polycarbonate: 1.586;
Diamond: 2.45

1. A ray of light traveling from air into crown glass strikes the surface at an angle of 30 degrees. What will the angle of refraction be?
2. Light travels through a liquid at 140,000 miles/second. What is the index of the liquid?
3. Light traveling through air encounters a second medium which slows the light to 100,000 miles/second. What is the index of the second medium?
4. What is the index of refraction of a refractive medium if the angle of incidence in air is 30 degrees and the angle of refraction is 15 degrees?
5. What is the index of refraction of a refractive medium if the angle of incidence in air is 40 degrees and the angle of refraction is 29 degrees?
6. What is the index of refraction of a liquid if the angle of incidence in air is 35 degrees and the angle of refraction is 14 degrees?
7. If the angle of incidence of light traveling through air, striking water, is 30 degrees, what is the angle of refraction?
8. If the index of refraction for a certain glass is 1.50, and the angle of refraction is 15 degrees for a ray of light traveling from air, what is the angle of incidence?
9. What is the velocity of light in miles per second in a material with an index of 2.0?
10. A light ray moving through CR39 at an angle of 49 degrees exits into another medium at an angle of 41 degrees. What is the index of the second medium?
11. What is the angle of incidence for a light ray traveling from water into flint glass, if the angle of refraction is 30 degrees?
12. What is the refractive medium if a ray coming from air at an angle of incidence of 50 degrees is refracted through an angle of 35 degrees?
13. Light travels at 109,000 miles/second through an optical medium. What is the medium?