

Name: _____

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Chapter 22.2 Homework

Conceptual Physics

Parent Signature: _____

Each numbered question is worth one point unless otherwise noted.

Reviewing Concepts

10. What happens to light as it moves from one material to another that has a different index of refraction?

11. Refer to Table 22.1 in the chapter. For light moving from air, which material has a greater ability to bend light toward the normal line: ice or glass? How do you know?

12. A glass rod appears to disappear when placed in vegetable oil. Why?

14. Fiber optics are glass fibers that carry light. You know from experience that light shines through glass. Why doesn't light escape from these glass fibers?

Solving Problems

5. The graphic on page 539 shows a ray of light that travels from air into water.

a. Copy the sketch and draw the normal line at the boundary between the air and water. (1)

b. On your sketch, label the angle of incidence and the angle of refraction. (0.5)

c. Find and label the index of refraction for each material. (0.5)

6. A light ray crosses from a piece of glass into a liquid. You observe that the light ray bends closer to the normal passing from the glass to the liquid. Based on this observation, how does the index of refraction for the liquid compare to the index of refraction for the glass?