



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Sub: Physical Science

Class: 8

Date: 11.06.20

Duration: 40 min

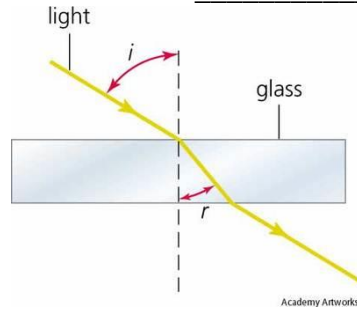
Worksheet Solution 35

Full Marks: 15

LIGHT/LAWS OF REFRACTION

Choose the Correct options:

1. Glass has a _____ index of refraction than air.



- (a) Equal
(b) **Greater**
(c) Less
(d) Impossible to say
2. The measure of how much light refracts is called...

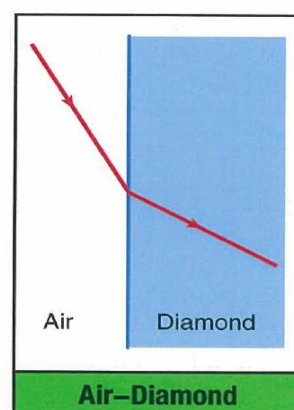
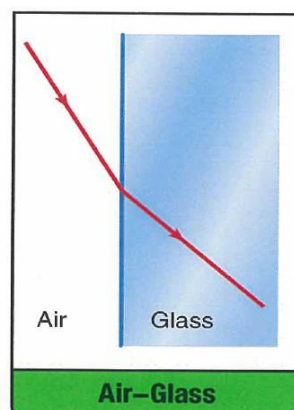
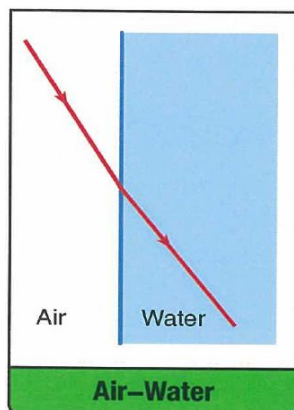
- (a) **Angle of Refraction**
(b) Law of reflection
(c) reflected ray
(d) Index of refraction

3. This shows the phenomenon known as....

- (a) reflection
(b) **refraction**
(c) mirrors
(d) focal point



4. How does light behave as it enters these mediums?



- (a) continue its path as straight line.
(b) **bends toward the normal**
(c) bends away from the normal
(d) reflects

5. The velocity of light in vacuum is _____ m/s.
(a) **3×10^8**
(b) 3×10^{12}
(c) 3×10^6
(d) 3×10^{10}
6. Absolute refractive index of any medium is always _____.
(a) less than 1
(b) **greater than 1**
(c) 1
(d) 0
7. The formula to calculate the refractive index is
(a) $n = cv$
(b) $n = v/c$
(c) **$n = c/v$**
(d) $v = nc$
8. Light has the highest velocity in which medium?
(a) flint glass $n = 1.70$
(b) crown glass $n = 1.523$
(c) **water $n = 1.33$**
(d) diamond $n = 2.45$
9. Light has the lowest velocity in which medium?
(a) barium glass $n = 1.60$
(b) crown glass $n = 1.523$
(c) water $n = 1.33$
(d) **diamond $n = 2.45$**
10. According to Willebord Snell, light passing from air to glass will cause the light to
(a) maintain its original speed
(b) accelerate while it is in glass
(c) increase its speed
(d) **reduce its speed**
11. Swimming pools and the ocean look shallower than they really are due to:
(a) reflection
(b) dispersion
(c) **refraction**
(d) total internal reflection
12. Light travels through a liquid at 2.25×10^8 m/s. What is the index of the liquid?
(a) **1.33**
(b) 1.0
(c) 1.523
(d) 2.45

13. Light travels at 1.76×10^8 m/s through an optical medium. What is the medium?

diamond $n=2.45$

flint glass $n=1.70$

barium glass $n=1.60$

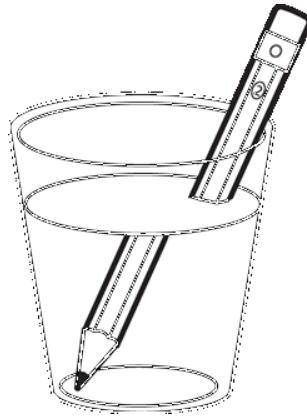
crown glass $n=1.523$

- (a) Crown Glass
- (b) Barium Glass
- (c) **Flint Glass**
- (d) Diamond

14. When a red light ray travels from air into a glass block, its

- (a) velocity increases and its wavelength decreases
- (b) **velocity decreases and its frequency stays the same**
- (c) velocity decreases and its frequency increases
- (d) velocity remains the same and its wavelength decreases

15. A student placed a pencil in a cup of water. The pencil appears broken because light-



- (a) always travels in a straight line
- (b) **bends when it passes through water**
- (c) makes the water in the glass evaporate
- (d) reflects the pencil on the water's surface