A TABLE OF THE VALUES OF μ AND U FOR THE MOST COMMON SUBSTANCES.

	μ	U		μ	U
Alcohol	1·370	0·029	Iceland Spar	1·655	0·040
Alum	1·457	0·036	Nitric Acid	1·406	0·045
Beryl	1·598	0·037	Oil of Turpentine	1·470	0·042
Canada Balsam	1·545	0·045	Plate Glass	1·510	0 032
Crown Glass	1·530	0·036	Rock Crystal	1 560	0.020
Diamond	2·440	0·038	Rock Salt	1·557	0·053
Ether	1·366	0·037	Sapphire	1·780	0·026
Feldspar.	1·536	0·042	Sulphide of Carbon	1·768	0·115
Flint Glass	1·580	0·048	Sulphuric Acid	1·435	0·031
Fluor Spar	1·435	0·022	Water	1·336	0·035

MISCELLANEOUS PROBLEMS.

1. What is the relative index when light passes from water into flint glass?

2. Find the deviation when the angle of incidence upon a plane mirror is 22° 30′.

3. At what angle must two plane mirrors be inclined so that a ray incident parallel to one of them may, after reflection at both, be parallel to the other?

4. Rays falling upon a mirror from a distance of 10 feet are brought to a focus at a distance of 6 feet in front; determine the mirror.

5. Parallel rays fall upon a concave mirror having a focal length of 3 feet, and thence upon a convex one of 3 inches focal length. If the mirrors be 38 inches apart, find the position of the resultant focus.

6. In Problem 5, find the distance between the mirrors when the resultant focus is at the primary.

7. What is the critical angle for diamond?

8. An equilateral triangular prism is to be employed for the purpose of total reflection without producing refraction; determine the lowest index necessary for the substance forming the prism.

9. A stone at the bottom of a pond is seen obliquely at an angle of 40°, and appears to be 3 feet below the surface; determine the depth of the pond.