

Refraction and Critical Angle Practice

1. If the index of refraction for diamond is 2.42, what is the angle of refraction when light travels from water into diamond with an incident angle of 60.0° ?
2. What is the critical angle for light rays passing from:
 - a) crown glass ($n = 1.52$) into air?
 - b) crown glass into water ($n = 1.33$)?
3. If the second medium is air, what is the index of refraction of a medium if the critical angle is 40.0° ?
4. What is the critical angle in flint glass when light passes from flint glass into air?
5. What is the critical angle of water when light passes from water into air?
6. The critical angle for a medium is 40.5° . What is the index of refraction of the medium? (Assume light travels into air.)

Indices of Refraction			
Substance	Index (n)	Substance	Index (n)
vacuum	1.0000	crown glass	1.52
air	1.0003	sodium chloride	1.53
water	1.33	crystal glass	1.54
ethyl alcohol	1.36	ruby	1.54
fused quartz	1.46	flint glass	1.65
glycerine	1.47	zircon	1.92
Plexiglas	1.51	diamond	2.42