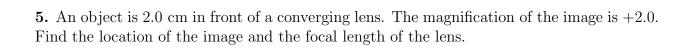
## Phys 2020 (NSCC), Spring 2008 Problem Set #9

1. Find the critical angle for light passing from quartz (index of refraction 1.458) into air.

2. Find the critical angle for light passing from flint glass (n = 1.66) into water (n = 1.33). (Recall this is the incident angle at which the refracted beam goes at 90° from the normal.)

3.	A	converging	lens has	a focal	length	of 20.0	cm.	Locate	the	images	for	object	distance	es
of	(a)	40.0 cm, ar	nd (b) 10	.0 cm.										

**4.** For each case in problem 3 state whether the image is real or virtual, upright or inverted and find the magnification.



**6.** A lens forms a real image with a magnification of  $\frac{1}{3}$  when the object is located 9.0 cm from the lens. What kind of lens is this and what is its focal length?

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				-	npute its f			2 III II OIII S	naes 3.0	, CIII X	4.0 CIII