



SUBJECT

Phys 2C 2/28

NAME

DATE

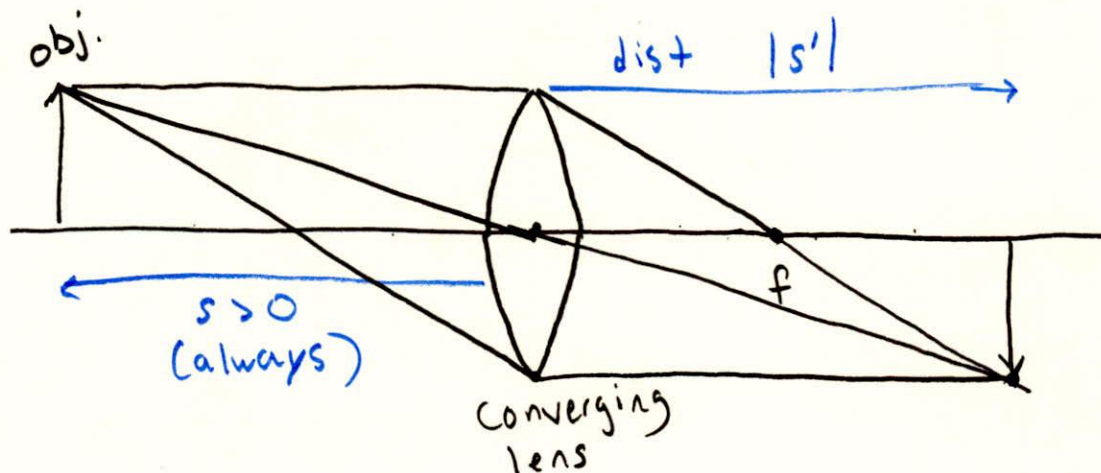
REVISION DATE

① Image formation by Refraction

② Clickers / Problems

③ Intro to Lenses

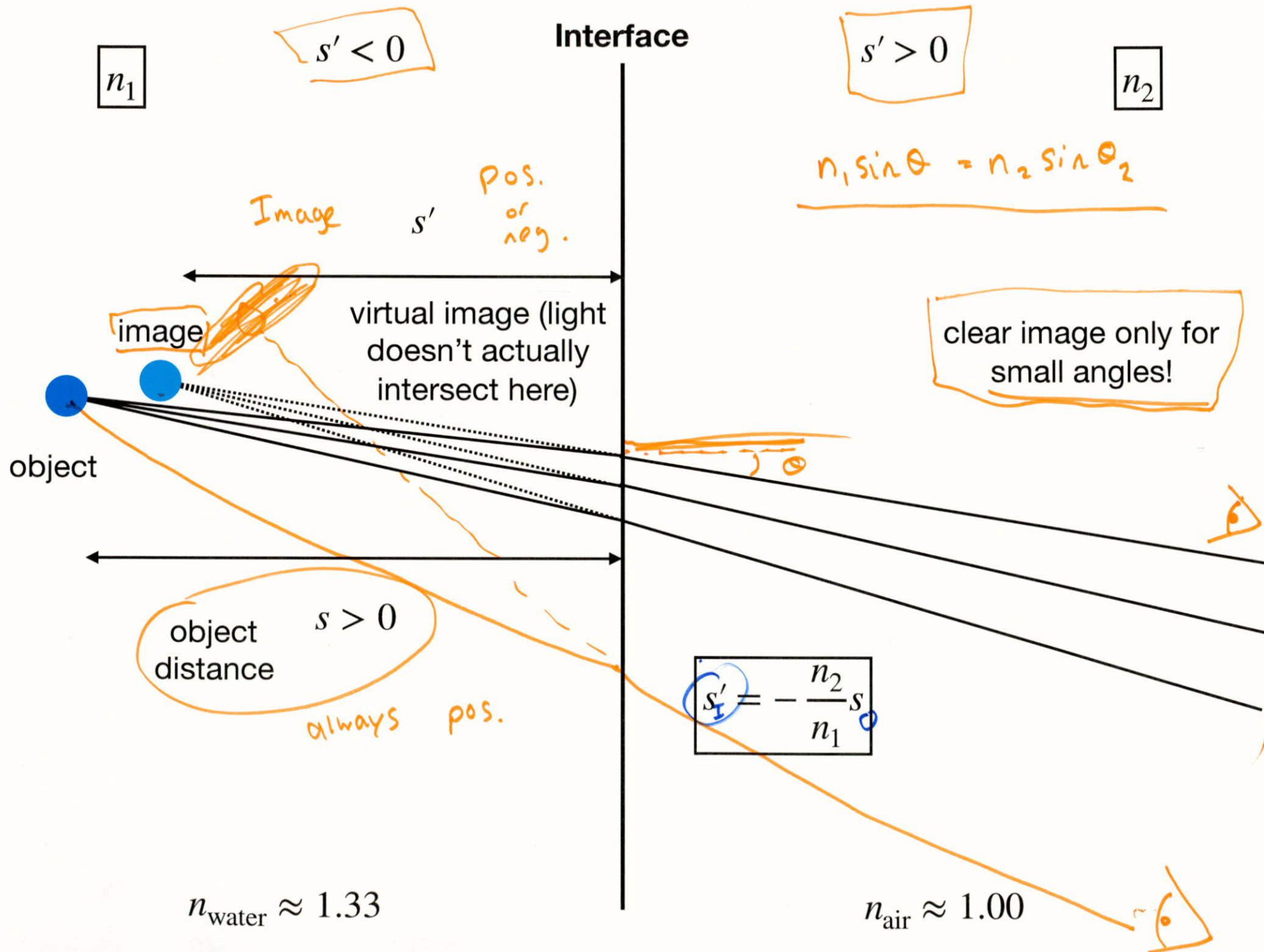
③ (Thin) Lenses

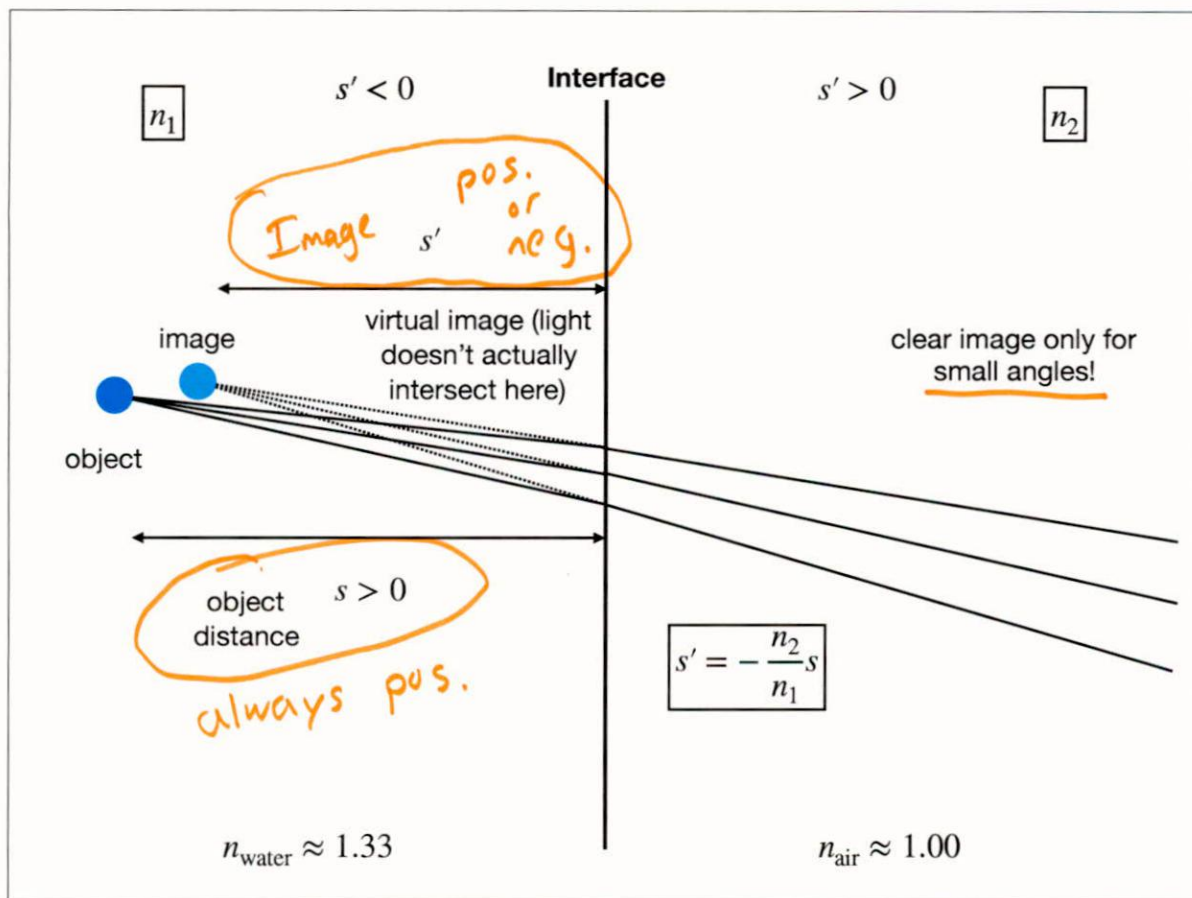
 Σ diverging $s' < 0$ $s' > 0$ Principle Rayswill bend
towards/away
from focus* Parallel line (parallel to principle axis)
* Line through center keeps going

Guess the image is

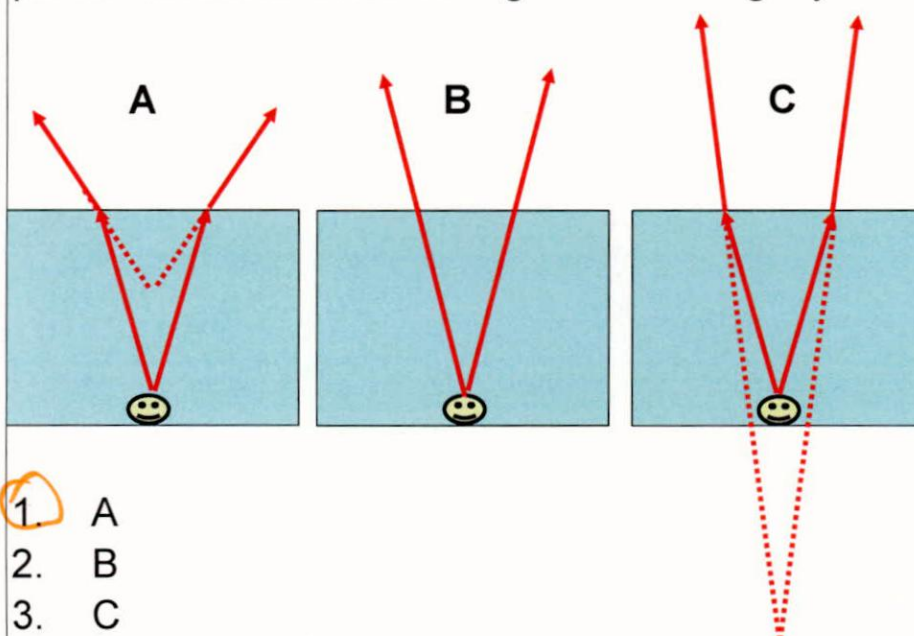
- (A) Real and Inverted
B) Real and Upright
C) Virtual and Inverted
D) Virtual and Upright

real: light rays
actually meet

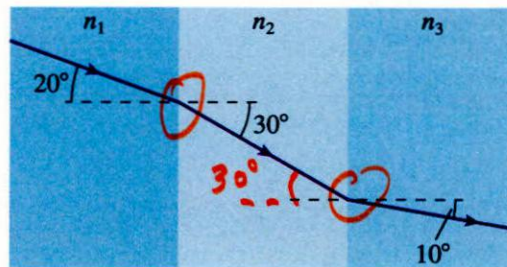




Several of your friends miss retrieving a gold happy face from the bottom of a stream on their first attempt. You dazzle everyone by drawing light rays illustrating that they were reaching in the wrong place. Which of the following sketches might you have drawn?



STOP TO THINK 34.3 A light ray travels from medium 1 to medium 3 as shown. For these media,



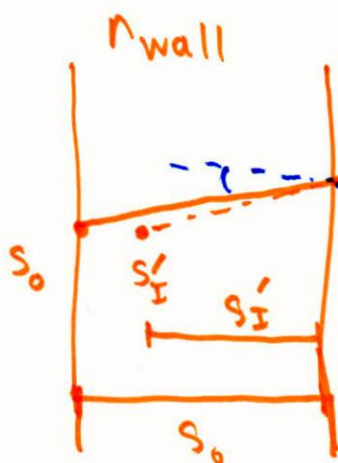
- a. $n_3 > n_1$ b. $n_3 = n_1$ c. $n_3 < n_1$
 d. We can't compare n_1 to n_3 without knowing n_2 .

$$n_1 (\sin 20^\circ) = n_2 (\sin 30^\circ) \\ = (n_3 (\sin 10^\circ)) \downarrow$$

(D) $n < 1.3$ (E) $n > 1.6$

(A) $1.3 < n < 1.4$ (B) $1.4 < n < 1.5$ (C) $1.5 < n < 1.6$

20. || To a fish in an aquarium, the 4.00-mm-thick walls appear to be only 3.50 mm thick. What is the index of refraction of the walls?



$n_{\text{water}} = 1.33$

$$s'_I = \frac{n_{\text{water}}}{n_{\text{wall}}} (s_0) = 3.5 \text{ mm} = \frac{1.33}{n_{\text{wall}}} (4.0 \text{ mm}) \\ \Rightarrow n_{\text{wall}} = 1.52$$