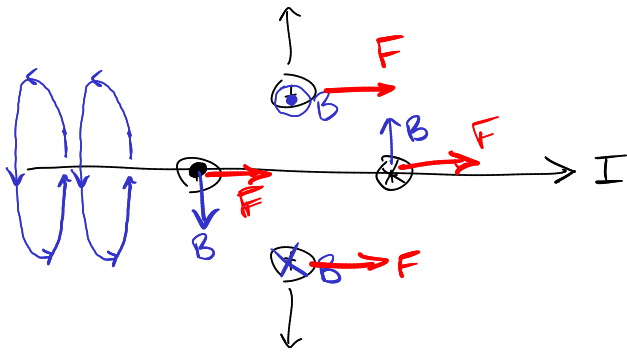
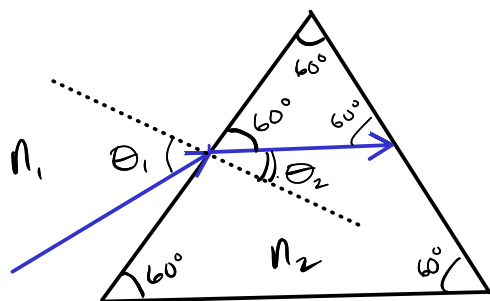


Week 10

\* 9



# Week 13

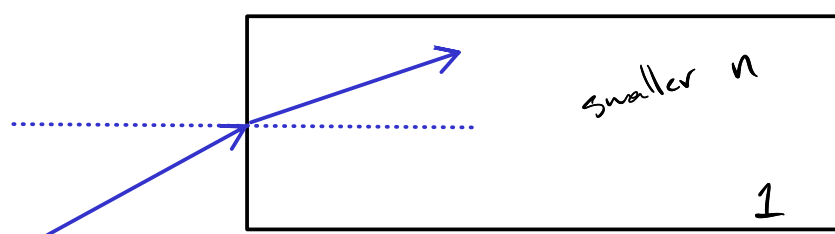


$$n_1 \sin \theta_1 = n_2 \sin \theta_2$$

$$\theta_1 = \sin^{-1} \left( \frac{n_2}{n_1} \sin \theta_2 \right)$$

$$= \sin^{-1} \left( \frac{1.7}{1} \sin 30^\circ \right)$$

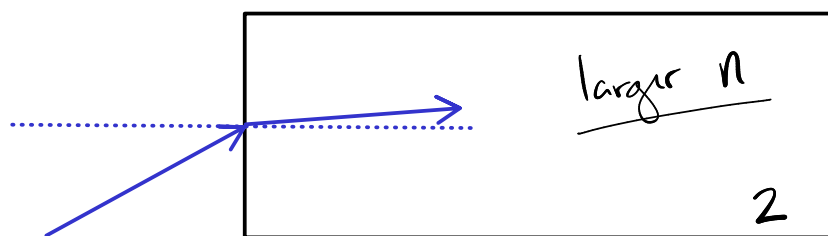
$$= 58.2^\circ$$



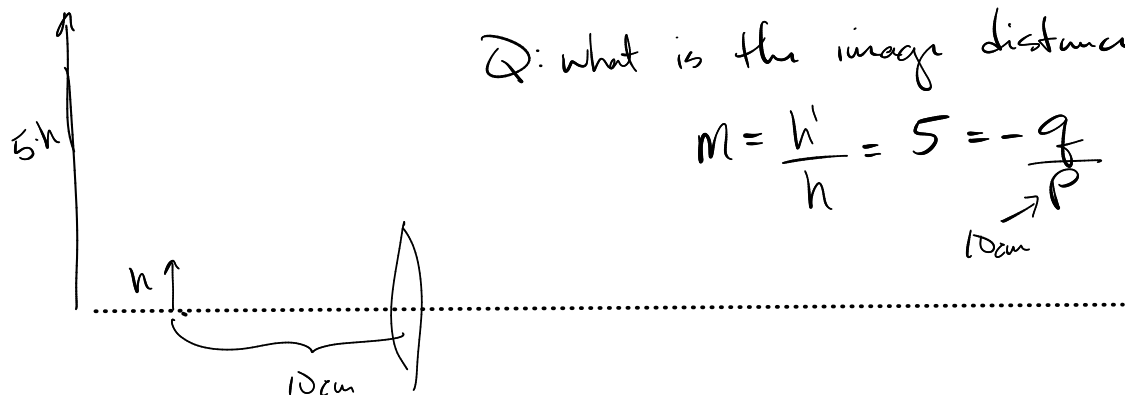
in which material is the speed of light higher?

→ larger  $v$   
✓

$$n = \frac{c}{v} \Rightarrow v = \frac{c}{n}$$



→ smaller  $v$



Q: what is the image distance

$$m = \frac{h'}{h} = 5 = -\frac{q}{p}$$

$$\boxed{q = -50 \text{ cm}}$$

better question: what is the focal length?

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{f} \quad f = \frac{1}{\frac{1}{10} + \frac{1}{-50}} = \underline{\underline{12.5 \text{ cm}}}$$

