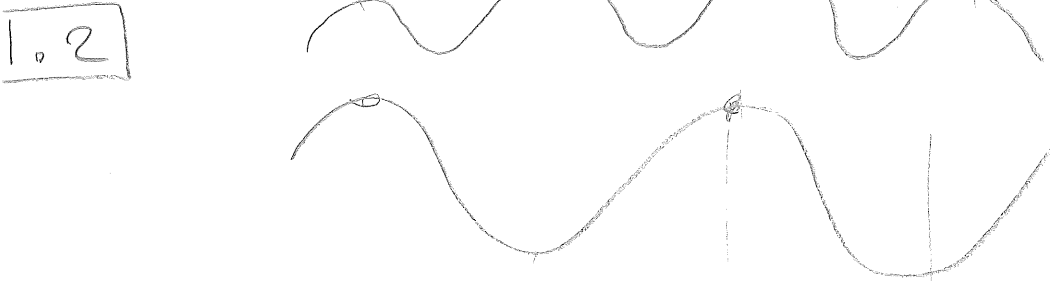


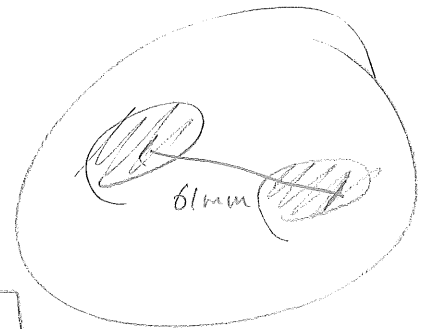
HÄFTESUPPGIFTER

1.1 Mer energi $E = hf = \frac{hc}{\lambda} \Rightarrow$ låg $\lambda \rightarrow$ hög E
Absorberas lättare



$$I(x) = |\psi(x)|^2$$

0,161



$$f = \frac{c}{\lambda} = \frac{3 \cdot 10^8}{1,21} = 2,48 \cdot 10^8 \text{ Hz}$$

2.1

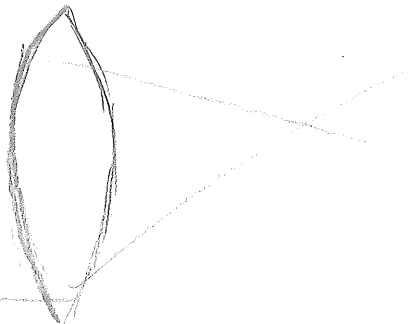


Ljuset fokuseras genom droppen

2.2

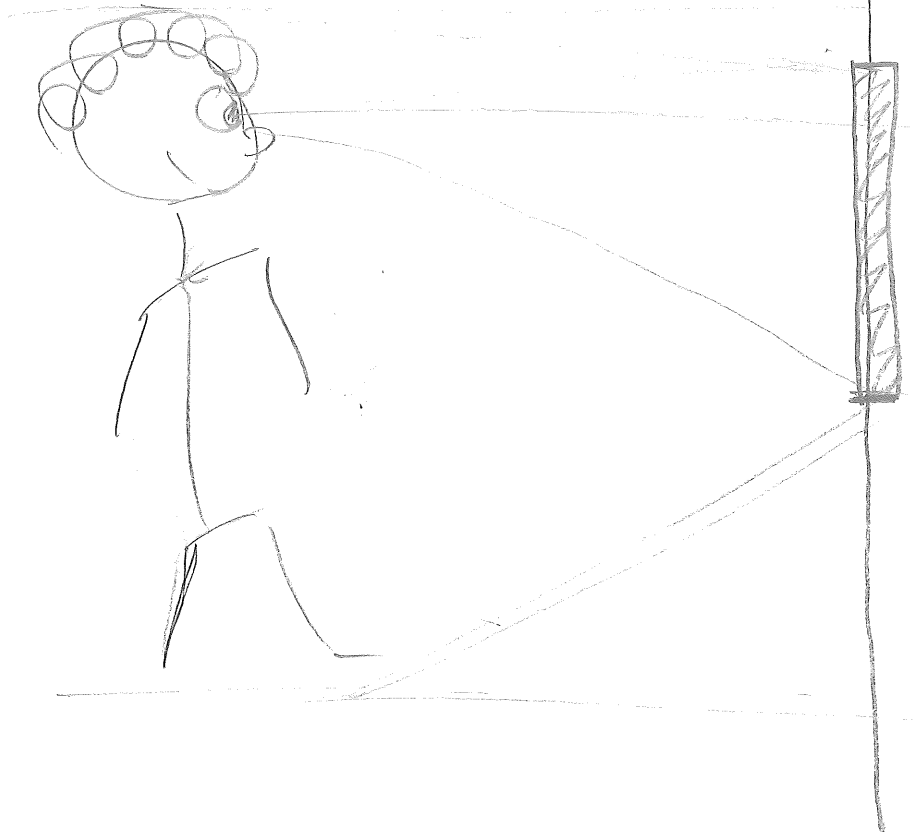
sprider $n_{\text{luft}} < n_{\text{plexiglas}}$ $n_2 > n_1$

2.3

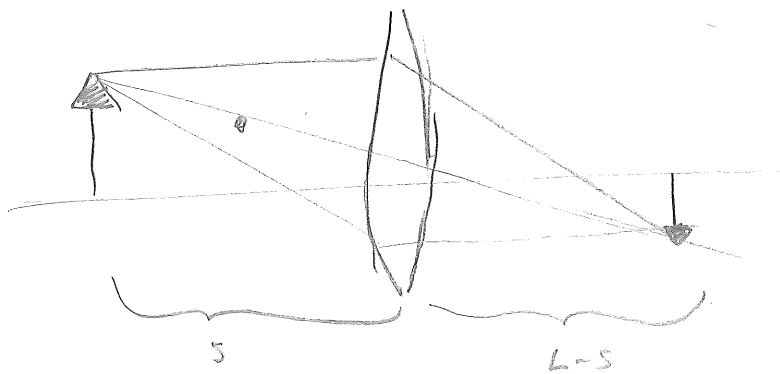


Minimum
optisk väg.

2.4



2.5



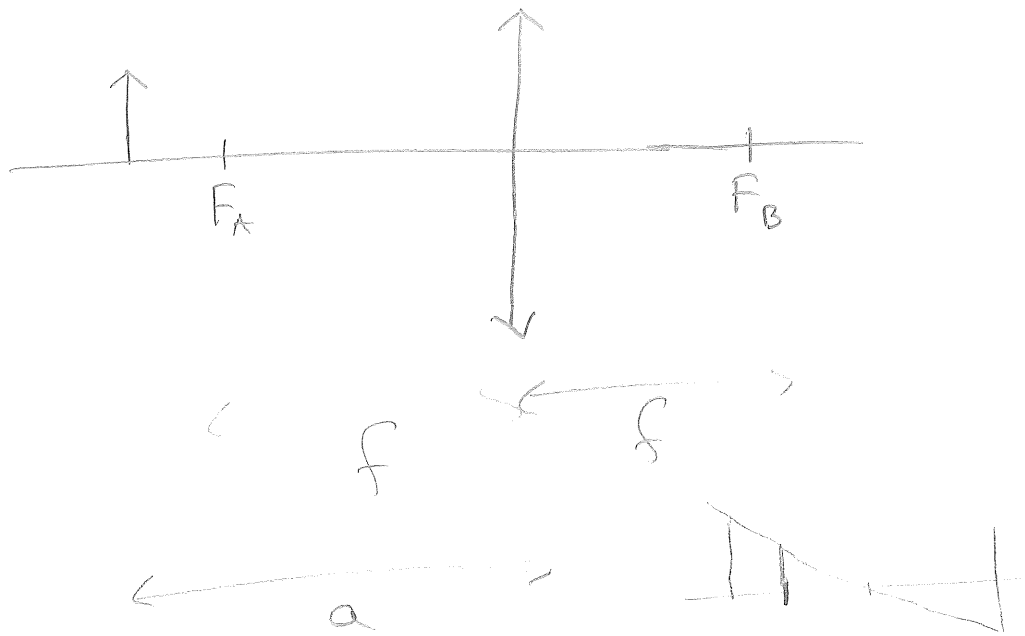
$$\frac{1}{s} + \frac{1}{L-s} = \frac{1}{f}$$

$$\frac{L-s+s}{(L-s)s} = \frac{1}{f} \Rightarrow f = \frac{Ls-s^2}{L}$$

$$s^2 - Ls + Lf = 0$$

$$s = \frac{L}{2} \pm \sqrt{\frac{L^2}{4} - Lf}$$

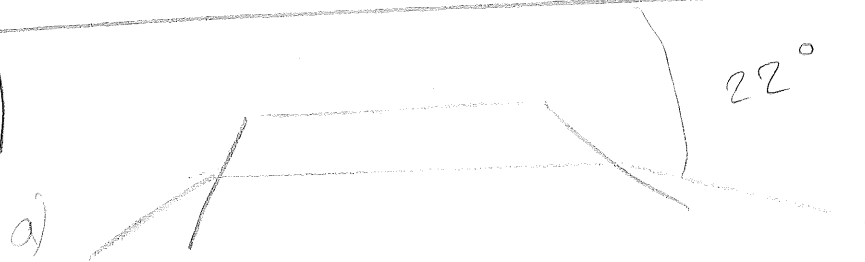
2.6



a) $a > 2f$, b) $0 < a < f$

c) $a = 2f$

2.7



b) $\delta = 46^\circ$

$\delta =$