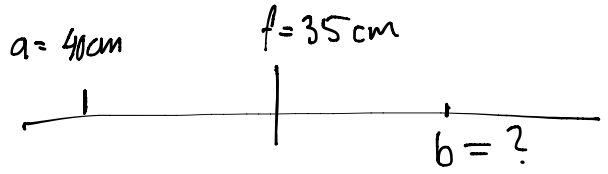

a) $\frac{1}{a} + \frac{1}{b} = \frac{1}{f} \Rightarrow b = \frac{1}{\frac{1}{f} - \frac{1}{a}} = 280\,cm$

b) $M = \frac{y_b}{y_a} = -\frac{b}{a} = -\frac{280}{40} = -7$

$y_b = M \cdot y_a = -56\,mm$

$E \propto A\, t_{exp} \propto D^2 t_{exp} \propto \frac{t_{exp}}{D_t^2}$

$D_t = 4$

$t_{exp} = \frac{1}{500}\,s \Rightarrow \frac{t_{exp}}{D_t^2} = \frac{1}{8000}$

Maximalt skarpedjup $\Rightarrow D_t = 16 \Rightarrow t_{exp} = \frac{D_t^2}{8000} \approx \frac{1}{30}\,s$