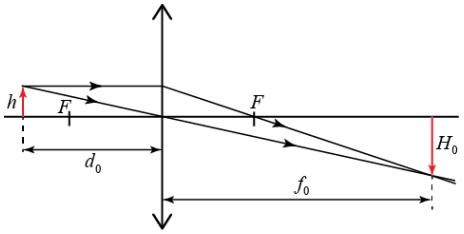
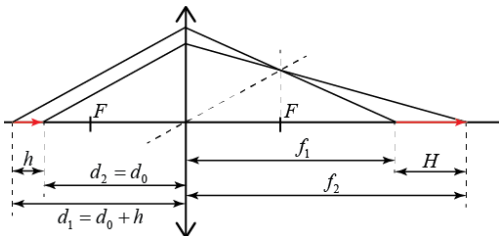
Problema 9.2

a)	Pentru construirea la scară a imaginii **(0.5 p.)** Pentru caracterizarea imaginii **(0.5 p.)** Puterea optică: $D=\frac{1}{F}$ **(0.5 p.)** $\Rightarrow$ $D=\frac{1}{0{,}12\,\text{m}}\approx 8{,}3\,\text{dptr.}$ **(0.5 p.)** 	**2.0 p.**
b)	Mărirea liniară: $\beta_0=\frac{H_0}{h}=\frac{f_0}{d_0}$ (1) **(0.5 p.)** Formula lentilei: $\frac{1}{F}=\frac{1}{d_0}+\frac{1}{f_0}$ **(0.5 p.)** $\Rightarrow$ $f_0=\frac{Fd_0}{d_0-F}$ (2) **(0.5 p.)** Din (1) şi (2) $\Rightarrow$ $\beta_0=\frac{\frac{Fd_0}{d_0-F}}{d_0}=\frac{F}{(d_0-F)}$ **(0.5 p.)** Numeric: $\beta_0=\frac{12}{18-12}=2$ **(0.5 p.)**	**2.5 p.**
c)	Pentru construirea la scară a imaginii **(1.0 p.)** $\beta=\frac{H}{h}=\frac{f_2-f_1}{h}$ (3) **(0.5 p.)** $H=\frac{Fd_2}{d_2-F}-\frac{Fd_1}{d_1-F}$ **(1.0 p.)** $\Rightarrow$ $\Rightarrow H=\frac{Fd_0}{d_0-F}-\frac{F(d_0+h)}{d_0+h-F}$ **(1.0 p.)** $H=\frac{F^2h}{(d_0-F)(d_0+h-F)}$ (4) **(1.0 p.)** Din (3) şi (4) $\Rightarrow$ $\beta=\frac{F^2}{(d_0-F)(d_0+h-F)}$ **(0.5 p.)** Numeric $\beta=\frac{12^2}{(18-12)(18+4-12)}=2{,}4$ **(0.5 p.)** 	**5.5 p.**
	Total max	**10.0 p.**