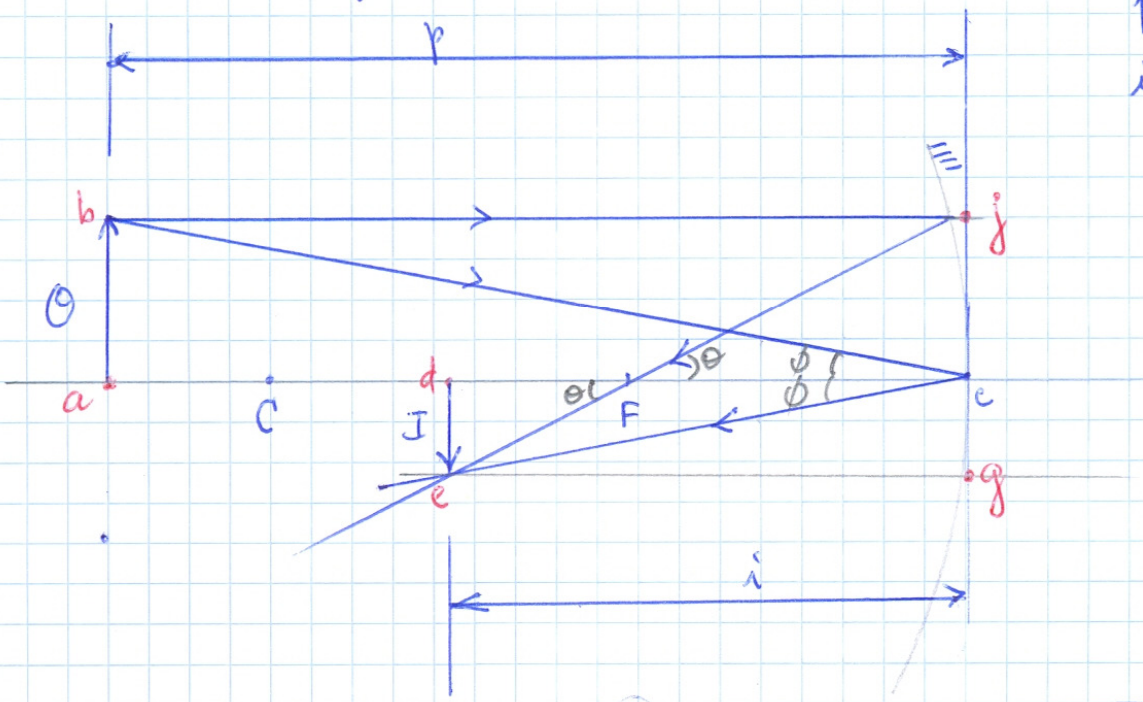
Dedução da expressão p/ Espelhos Esféricos

$$\boxed{\frac{1}{f} = \frac{1}{p} + \frac{1}{i}}$$

$p > 0$.

$i > 0$ (imagem real).



$\Delta a\hat{c}b \equiv \Delta d\hat{c}e \Rightarrow \frac{\overline{ab}}{\overline{de}} = \frac{p}{i} \Rightarrow \boxed{\frac{O}{I} = \frac{p}{i}}$ (I)

$\Delta eFd \equiv \Delta cFj \Rightarrow \frac{\overline{Fd}}{\overline{de}} = \frac{\overline{Fc}}{\overline{cj}} \Rightarrow \boxed{\frac{i-f}{I} = \frac{f}{O}}$ (II)

$\overline{de}$ — I; $\overline{cj}$ — O

$\therefore i - f = \frac{I}{O} \cdot f$

(I) $\Rightarrow$ (II)

$i - f = \frac{i}{p} \cdot f$

$i = \frac{i}{p} f + f$

$i = f\left(\frac{i}{p} + 1\right)$

$\frac{1}{f} = \frac{1}{i}\left(\frac{i}{p} + 1\right)$

$$\boxed{\frac{1}{f} = \left(\frac{1}{p} + \frac{1}{i}\right)}$$

4.