

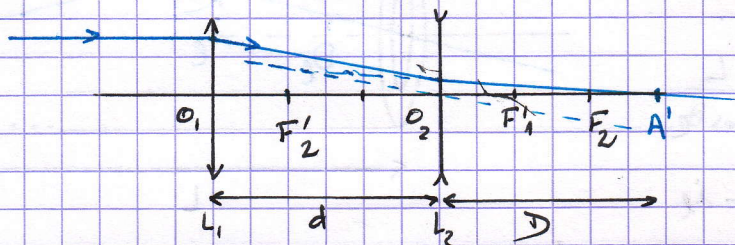
OROP18. Doublet de lentilles. (CCP-2019)

1. $V_1 = \frac{1}{f'_1} = 20 \text{ cm} > 0$ lentille convergente.

$V_2 = \frac{1}{f'_2} = -10 \text{ cm} < 0$ " divergente

2a) $A_\infty \xrightarrow{L_1} F'_1 \xrightarrow{L_2} A'_{\text{réel}}$ donc F'_1 entre O_2 et F_2 .

$\rightarrow d < 5 \text{ cm}$



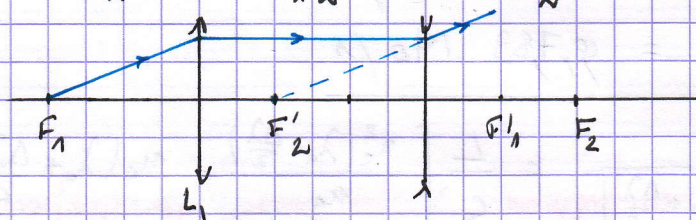
$$\frac{1}{\overline{O_2 A'}} = \frac{1}{\overline{O_2 F'_1}} = \frac{1}{f'_2}$$

$$\therefore \overline{O_2 F'_1} = \overline{O_2 O_1} + \overline{O_1 F'_1} = -d + f'_1$$

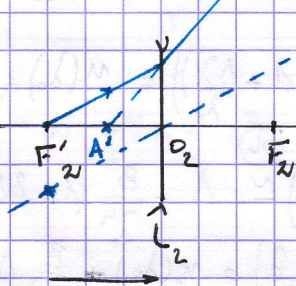
$$\overline{O_2 A'} = D$$

$$\rightarrow \frac{1}{D} - \frac{1}{-d + f'_1} = \frac{1}{f'_2}$$

b) $F_1 \xrightarrow{L_1} A_\infty \xrightarrow{L_2} F'_2$ or F'_2 virtuel donc pas d'image réelle



3. $F'_2 \xrightarrow{L_2} A' \xrightarrow{L_2} A''_{\text{réelle}}$



$\rightarrow A'$ avant F_1 .

$$\left(\frac{1}{\overline{O_2 A'}} - \frac{1}{\overline{O_2 F'_2}} = \frac{1}{f'_2} \rightarrow \overline{O_2 A'} = \frac{\overline{O_2 F'_2} \cdot f'_2}{\overline{O_2 F'_2} + f'_2} \right.$$

$$\overline{O_2 A'} = + \frac{f'_2}{2} = -5 \text{ cm}$$

$\Rightarrow \underline{\underline{d > 5 \text{ cm}}}$