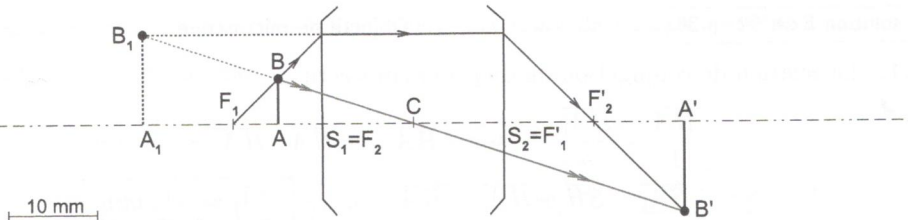


2.1.



$$2.2. \quad \frac{f_1}{\overline{S_1 A}} + \frac{f'_1}{\overline{S_1 A_1}} = 1 \quad \text{donc} \quad \frac{f'_1}{\overline{S_1 A_1}} = 1 - \frac{f_1}{\overline{S_1 A}} = \frac{\overline{S_1 A} - f_1}{\overline{S_1 A}} \quad \overline{S_1 A_1} = \frac{f'_1 \cdot \overline{S_1 A}}{\overline{S_1 A} - f_1}$$

$$\overline{S_1 A} = \overline{S_1 C} + \overline{CA} = -5,0 \text{ mm}$$

$$\boxed{\overline{S_1 A_1} = -20 \text{ mm}}$$

$$2.3. \quad \text{Grandissement transversal :} \quad g_{y1} = \frac{\overline{A_1 B_1}}{\overline{AB}} = \frac{1}{n} \frac{\overline{S_1 A_1}}{\overline{S_1 A}}$$

$$\boxed{g_{y1} = 2,0}$$

3.2. Position de l'image finale :

$$\overline{S_2 A'} = \frac{f'_2 \cdot \overline{S_2 A_1}}{\overline{S_2 A_1} - f_2} \quad \text{avec} \quad \overline{S_2 A_1} = \overline{S_2 S_1} + \overline{S_1 A_1} = -40 \text{ mm}$$

$$\boxed{\overline{S_2 A'} = +20 \text{ mm}}$$