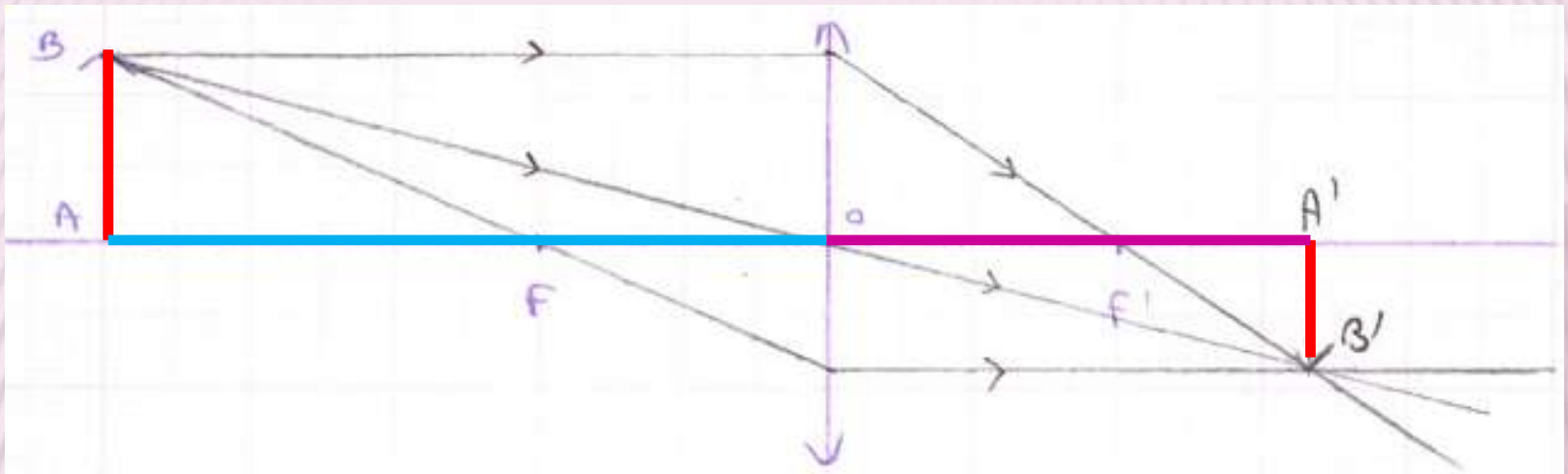
The background features a complex, abstract pattern of light streaks in shades of blue and purple, radiating from the center and creating a sense of depth and movement against a dark background.

Chapitre 1

Vision et image

Compléments mathématiques

**Comprendre les
formules de
grandissement et
de conjugaison**



Mathématiquement :

$$\tan \alpha = \text{opp} / \text{adj} = \mathbf{AB} / \mathbf{OA} = \mathbf{A'B'} / \mathbf{OA'}$$

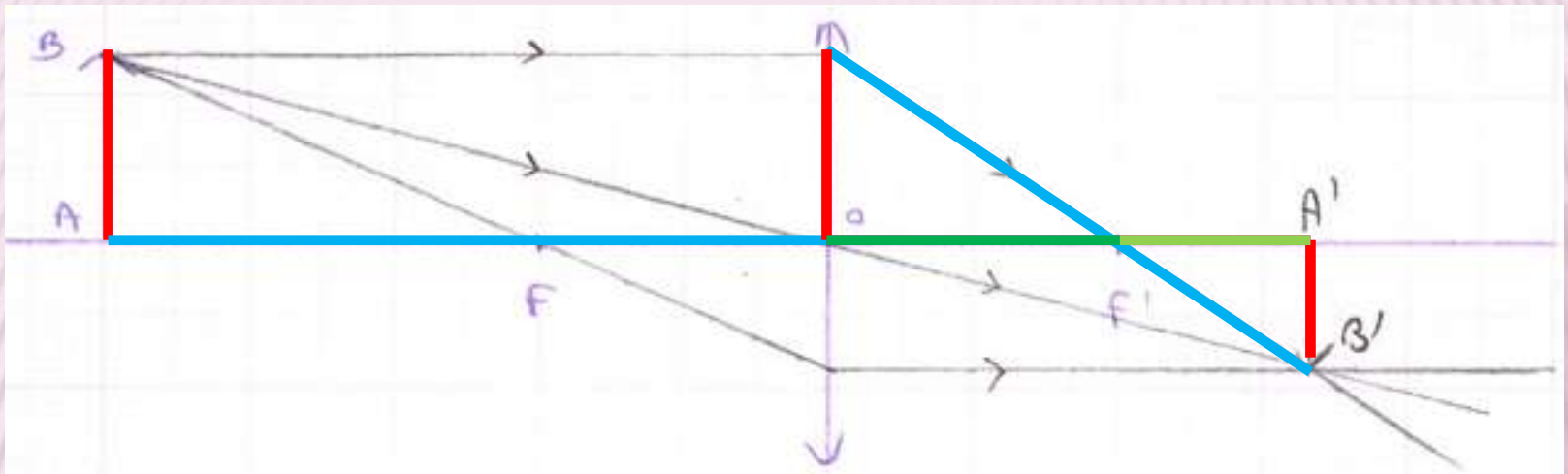
Si j'introduis les grandeurs algébriques :

$$\overline{A'B'} = \overline{OA'} \times \overline{AB} / \overline{OA}$$

Pour calculer le grandissement :

$$\gamma = \overline{A'B'} / \overline{AB} = \overline{OA'} / \overline{OA}$$

$$\overline{A'B'} = \overline{OA'} \times \overline{AB} / \overline{OA}$$

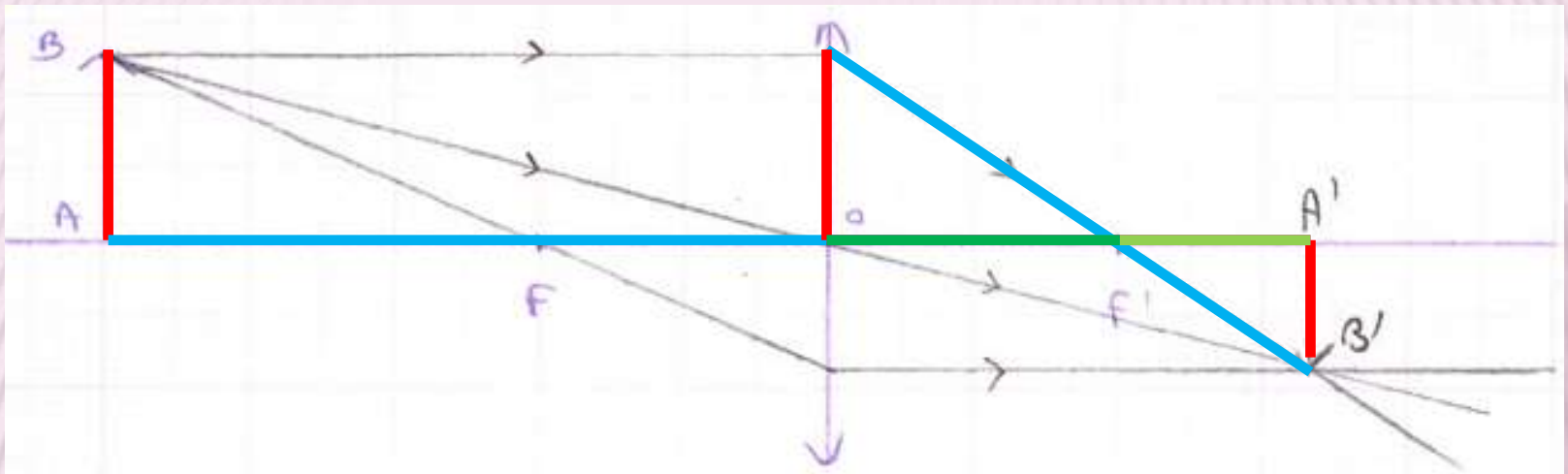


Mathématiquement :

$$\tan \alpha = \text{opp} / \text{adj} = \mathbf{AB} / \mathbf{OA} = \mathbf{A'B'} / \mathbf{OA'}$$

$$\tan \alpha' = \text{opp} / \text{adj} = \mathbf{AB} / \mathbf{OF'} = \mathbf{A'B'} / \mathbf{F'A'}$$

$$\text{avec } \mathbf{F'A'} = \mathbf{OA'} - \mathbf{OF'}$$



Mathématiquement :

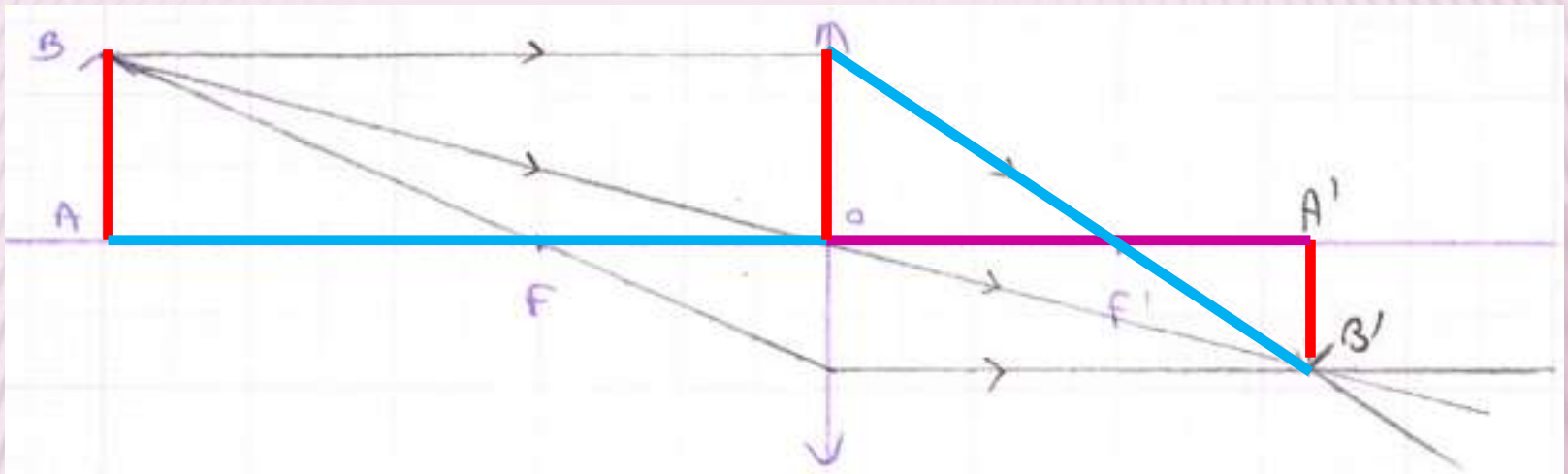
$$AB / OA = A'B' / OA'$$

$$AB / A'B' = OA' / OA$$

$$AB / OF' = A'B' / F'A'$$

$$AB / A'B' = (OA' - OF') / OF'$$

avec $F'A' = OA' - OF'$

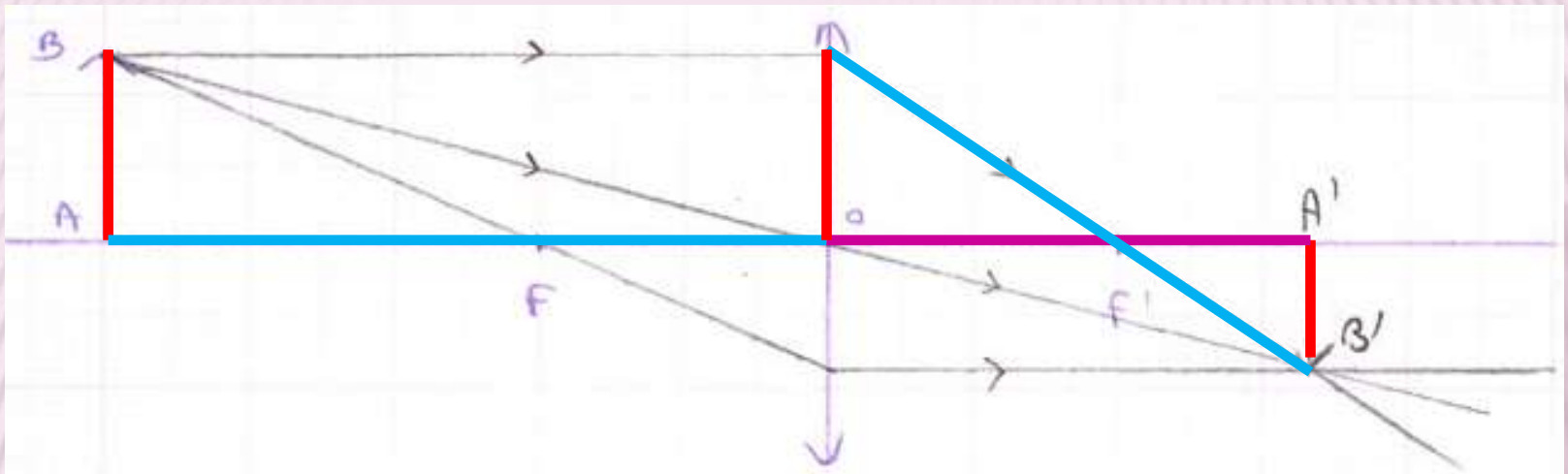


Mathématiquement :

$$AB / A'B' = OA' / OA = (OA' - OF') / OF'$$

$$= OA' / OF' - OF' / OF'$$

$$= OA' / OF' - 1$$

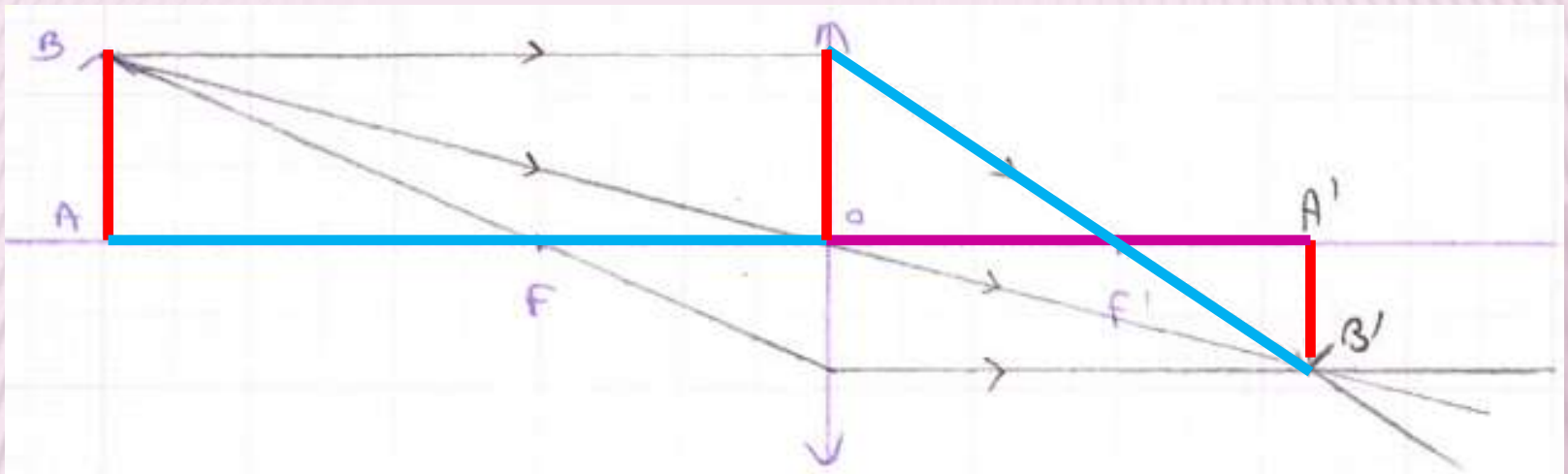


Mathématiquement :

$$OA' / OA = OA' / OF' - 1$$

$$1 / OA = OA' / (OF' \times OA') - 1 / OA'$$

$$1 / OA = 1 / OF' - 1 / OA'$$



$$1 / \text{OA} = 1 / \text{OF}' - 1 / \text{OA}'$$

$$1 / \text{OF}' = 1 / \text{OA}' + 1 / \text{OA}$$

Si j'introduis les grandeurs algébriques :


$$1 / \overline{\text{OF}'} = 1 / \overline{\text{OA}'} - 1 / \overline{\text{OA}}$$

$$1 / f' = 1 / p' - 1 / p$$

Pour calculer la position OA' de l'image :

$$1 / \overline{OF'} = 1 / \overline{OA'} - 1 / \overline{OA}$$

$$1 / \overline{OA'} = 1 / \overline{OF'} + 1 / \overline{OA}$$

A night scene of a lighthouse on a pier over the ocean, with a green aurora borealis in the sky.

Chapitre 1

Vision et image

Compléments mathématiques

C'est fini...