1. Determination of the focal length of a convex lens

Data:
The distance between the object and the screen:
The distance between the object and the lens $d_{obj} =$
The distance between the image and the lens $d_{img} =$
The size of the image $s_{img} =$

Evaluation:
1/1. Formula [F2]: $f =$

1/2. Formula [F3]: $M =$

$\rightarrow s_{obj} =$

1/3. Diagram: on a separate A4 sheet.

1/4. Formula for $f$: $f =$

$\rightarrow$ formula for $\Delta f =$

calculation: $\Delta f =$

2. A Estimation of the thickness of a hair fiber with a lens

Data: $f = 50$ mm

The distance between the object and the lens $d_{obj} =$

The distance between the image and the lens $d_{img} =$

The size of the image (diameter of the hair fiber) $s_{img} =$

Evaluation:

2/1. $M =$

2/2. The width of the hair fibre: $s_{obj} =$
OPTICS DATA SHEET

2.B Measuring the width of a hair fiber with diffraction

Data: \( \lambda = 650 \text{ nm} \)

The distance between the hair and the screen: \( L = \)

The average distance between two dark spots: \( \Delta x = \)

Evaluation:

The width of the hair: \( D = \)

3. Determination of the refractive index of prism

Data: angle of the prism: \( \Phi = 60^\circ \)

The angle of incidence \( \alpha \) when \( \delta = 90^\circ \): \( \alpha = \)

Evaluation:

Formula: \( n = \)

Calculation: \( n = \)