OPTICS DATA SHEET

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] : $\rightarrow$ f =

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

$\rightarrow$ s_{obj} =

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

1/4. Formula for f: f =

$\rightarrow$ formula for Δf =

calculation: Δf =

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: λ = 650 nm

The distance between the hair and the screen: L =

The average distance between two dark spots: Δx =

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 α when $\delta = 90^\circ$: α =

Evaluation:

Formula: n =

Calculation: n =