



# Review: Seeing through pinholes

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## 8. Seeing through pinholes

An opaque sheet with **regularly arranged pinholes** corrects **myopia** similar to corrective lenses. **Explain** this effect and introduce **parameters** to describe image perception by myopic humans with and without pinhole glasses.

**Task poorly fulfilled.**



# Overview

## Theory

- Experiment
- Results
- Agreement between theory and experiment
- Conclusions

**Green** = very good

**Yellow** = average

**Red** = needs improvement



# Reporter



1. Explained the mechanism of the eye and the physiological effect of myopia
2. Size of the hole varied
3. Has a prediction for the critical angle
4. Comparison between the theoretical model and the experimental points
5. Obtained an agreement with the predictions



1. Used only one hole, not many regularly arranged holes as stated in the problem
2. Considers only one cause of myopia – problems with the muscles (elongated eyeball)
3. Unclear experiment – parameters varied; people tested
4. Only diameter of the hole varied (no small sized holes), not vary shapes and density of the holes
5. No quantitative results
6. No use of a **standardized** eye vision test
7. Usage of camera without accounting for the different perceptions
8. Too few experimental points

# Opponent



1. Some adequate clarifying questions – how much people were tested
2. Noticed the lack of experimental data
3. Questioned the validity of the experimental setup
4. Acknowledged the distance from eye to glasses is important



1. Didn't mention the importance of the arrangement of the pinholes
2. Didn't notice the fact that the reporter used only one hole
3. Didn't focus on the important parameters in the problem – number of holes, shape, different myopia levels
4. Didn't notice the fact that the experimental setup with the camera is out of the problem
5. Critiqued the well explained theoretical part
6. Didn't introduce the interesting missed points of the problem
7. Didn't state his opinion on the important factor

# Discussion



1. Opponent talked about the problems with the experimental procedure
2. Clarified the theoretical part



1. Didn't focus on the problems with the size and number of holes
2. Missed most important parameters

Discussion was not productive