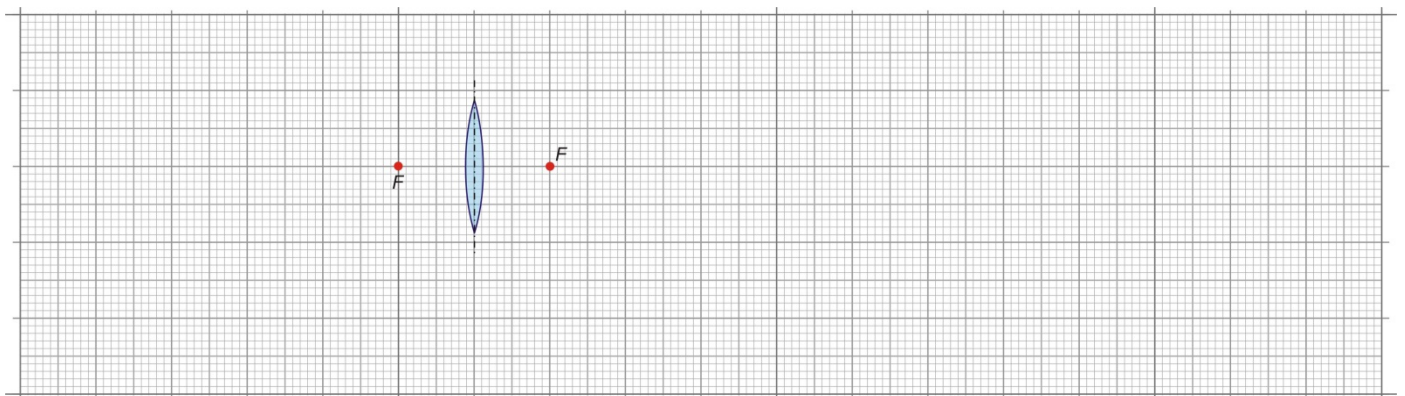


1. Infrared light of a CO₂ laser of 20 W power is focused to a spot of the patient's skin of 0.1 mm in diameter. Find the power density (intensity) of the radiation.

2. The work function of sodium is 2.55 eV. Applying blue light of 450 nm wavelength electrons are released from the metal. Calculate the velocity of them.

3. The objective lens of a microscope is represented on the figure. This forms an image of the examined object with not too high magnification. Put the object into proper position on the figure and construct the image of it.



Choose the proper characteristics of the image:

- real
- virtual
- erect
- reversed

4. How the wave nature of light can be proven? Write at least one phenomenon/experiment in details.

5. The index of refraction of the measuring prism of a refractometer is 1.7245. We want to measure oil with index of refraction of 1.7302 with it. What do we see in the visual field of the refractometer after dropping the oil and why?