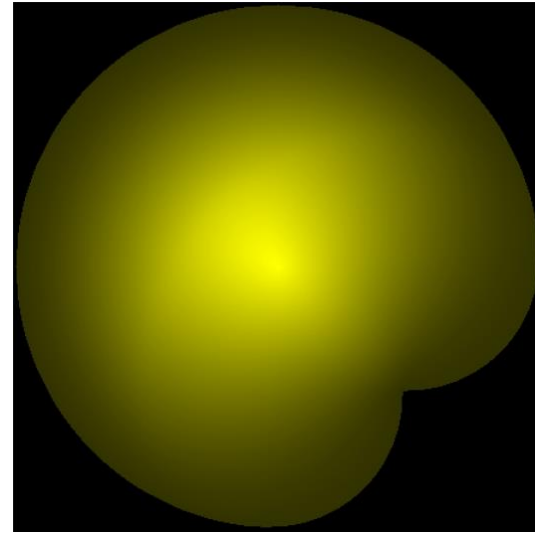
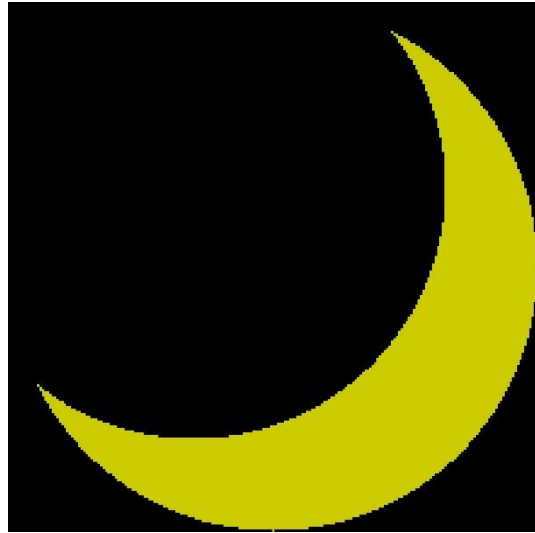


Workshop Exercises

On the shape of the eclipse



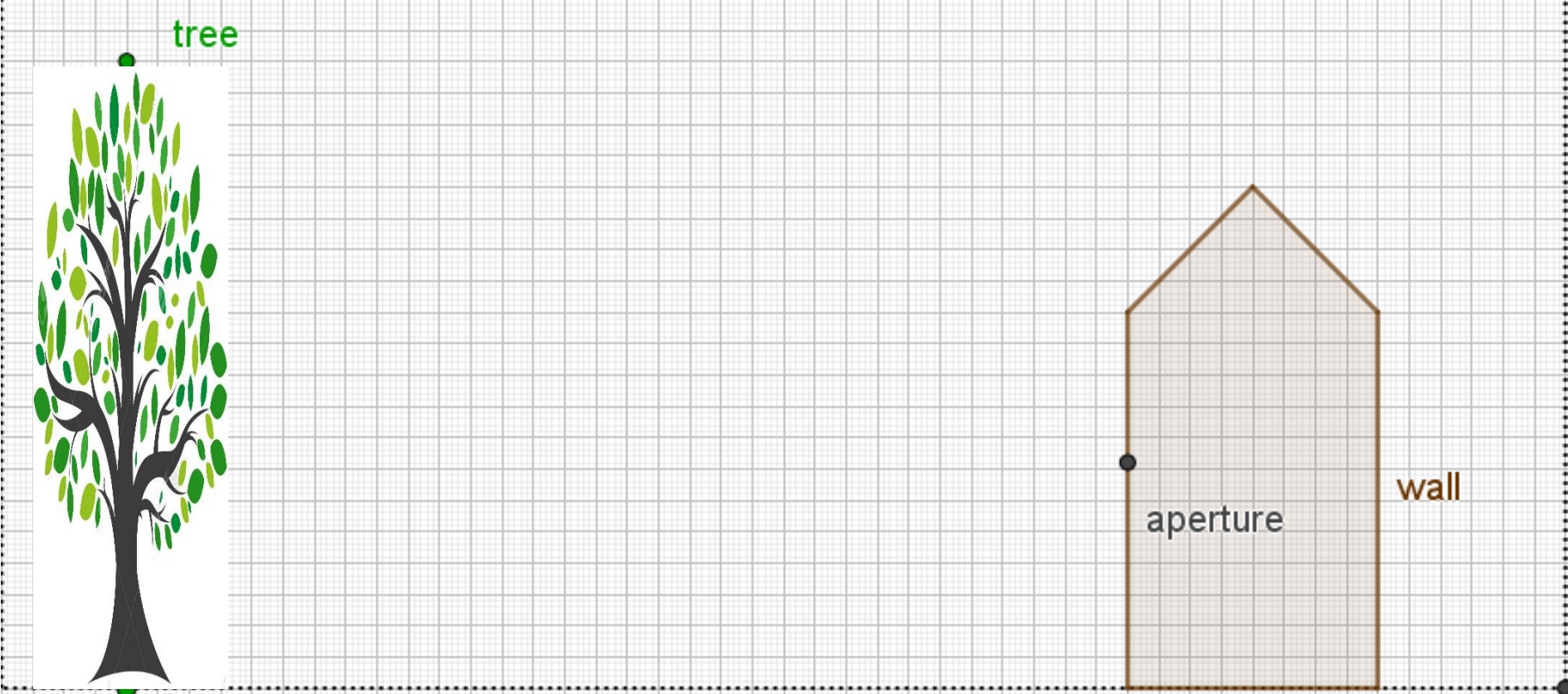
The 2nd International Prof. Dr. Fuat Sezgin History of Science in Islam Symposium

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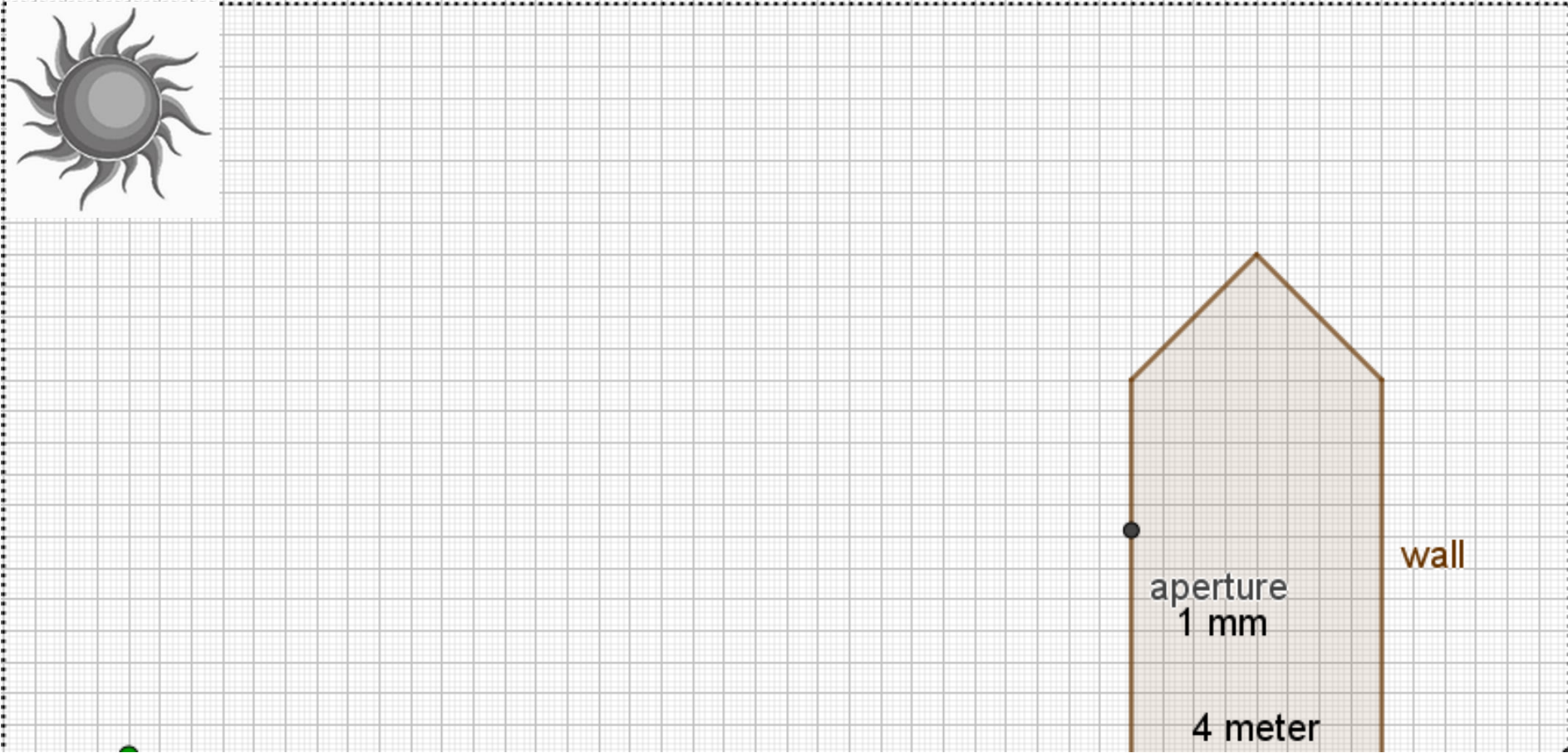
Packing list

- Hand-out
- Rope
- Tape
- Paper rulers
- Pencils
- Scissors
- A4 paper

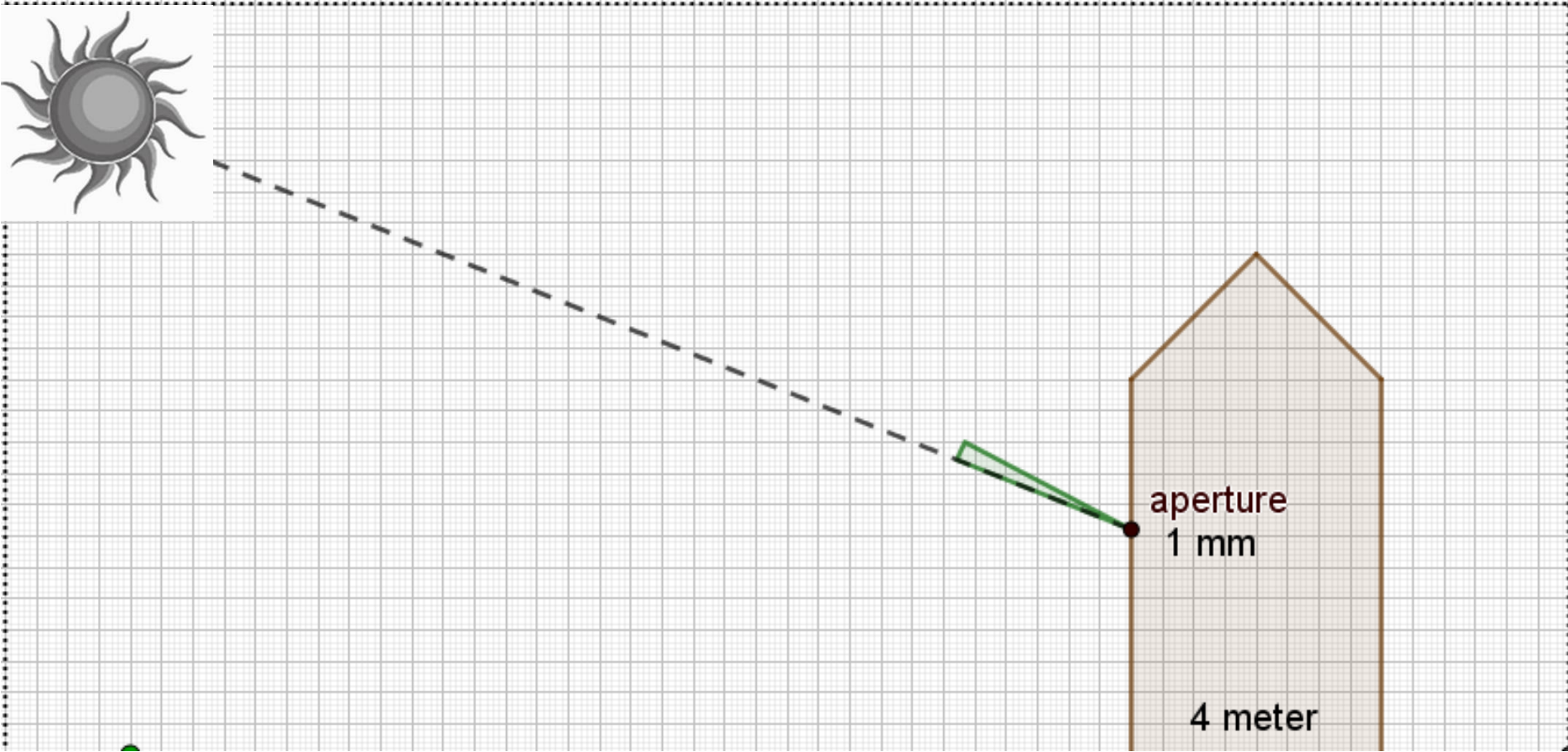
In a dark house, there is only one small hole (aperture).
The width of the house is 4 meters and the diameter of the aperture is only 3 mm.
Light flows through that hole into the room.
Outline the image of the tree on the inside wall of that house.



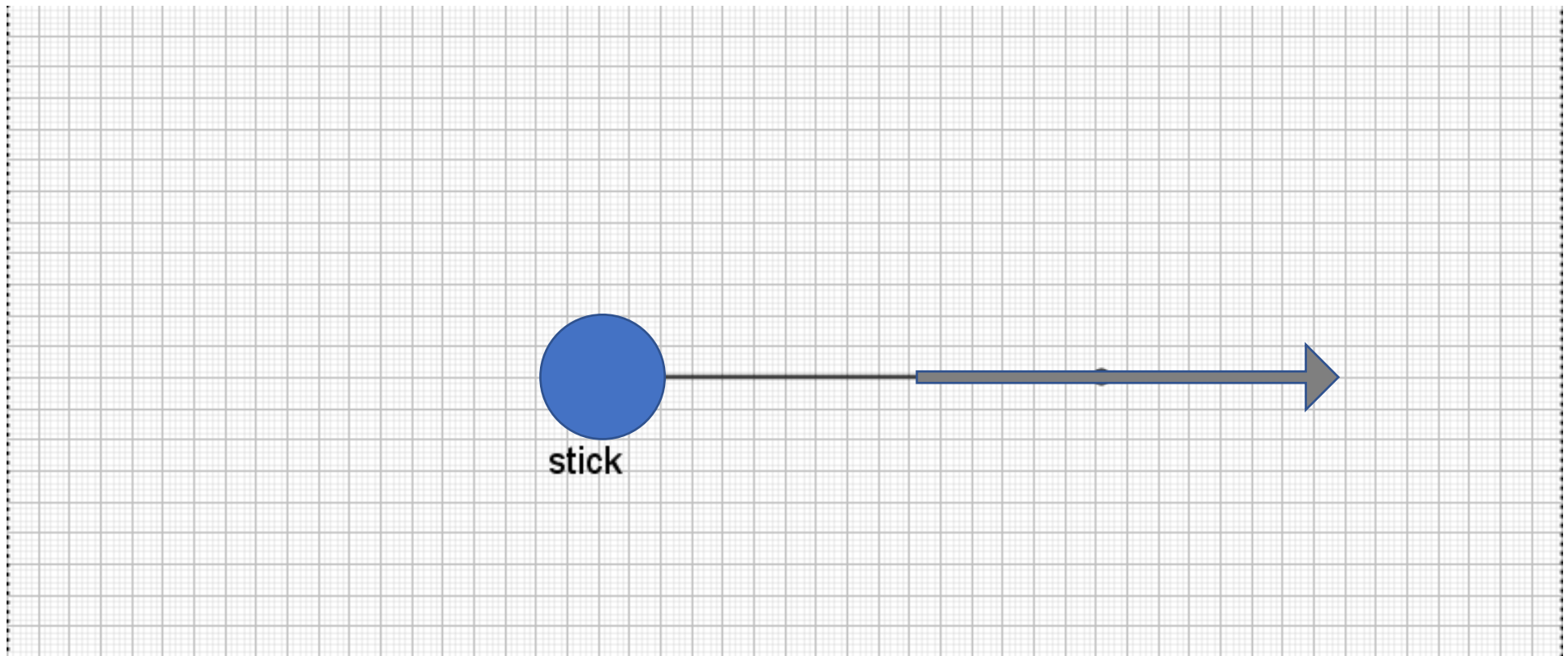
Draw the image of the sun on the inside wall of that same house.
The small aperture is only 1 mm. The width of the house is 4 meters.
Estimate the diameter of that image.



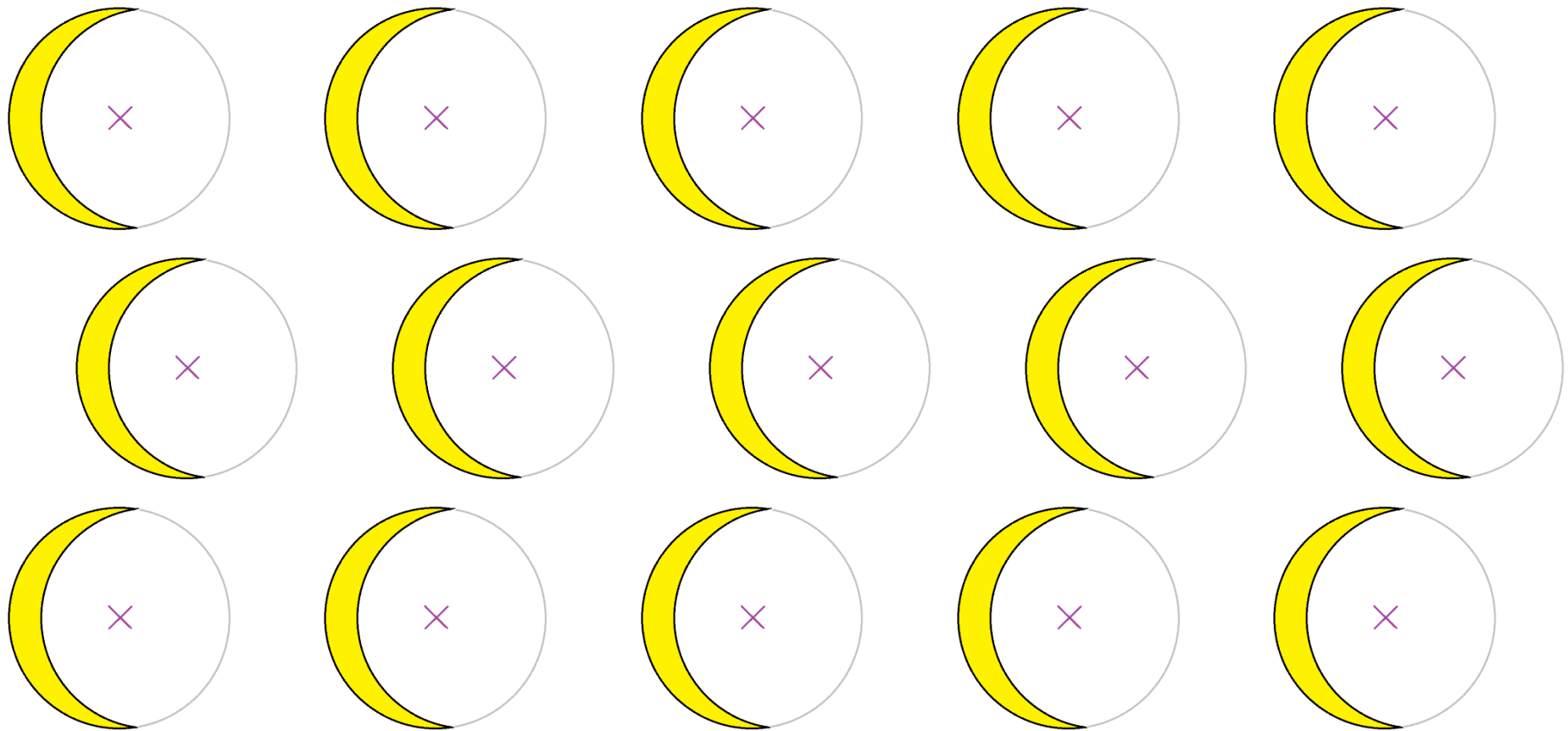
Draw the sun in the upperleft corner on a scale of 1 to 100.
The width of the house is 4 meters.
Express the true size of the sun in degrees.



Construct the full shadow and the semi-shadow of a 2 cm diameter stick at sunrise.
You might need more than one table for this construction.
Estimate the length of the full shadow.
Use rope, tape, and a paper ruler. Advice is to work precisely.



This page shows crescent moons with a diameter of 3,5 cm.
That corresponds to the house of 4 meter width
Make at least four copies on a plastic transparency.
Use a waterproof marking pen.
Do not forget to mark the cross at the center.



The light of the crescent moon flows through a 2 cm square aperture.

The width of the house is 4 meters.

Cut this page in two parts and put in on the table or floor with 4 meters distance. Use the rope construction from point to point and place the image of the crescent moon on the inside wall. Think about the position of the other images when you would start the rope construction from the points marked by the four crosses.

