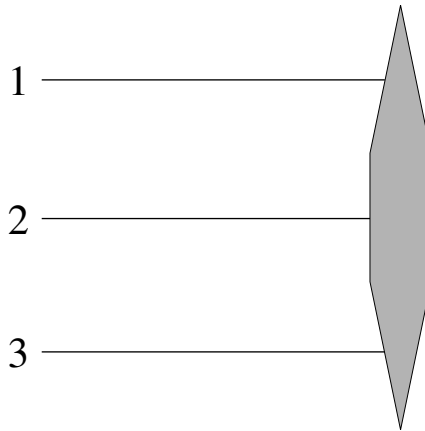
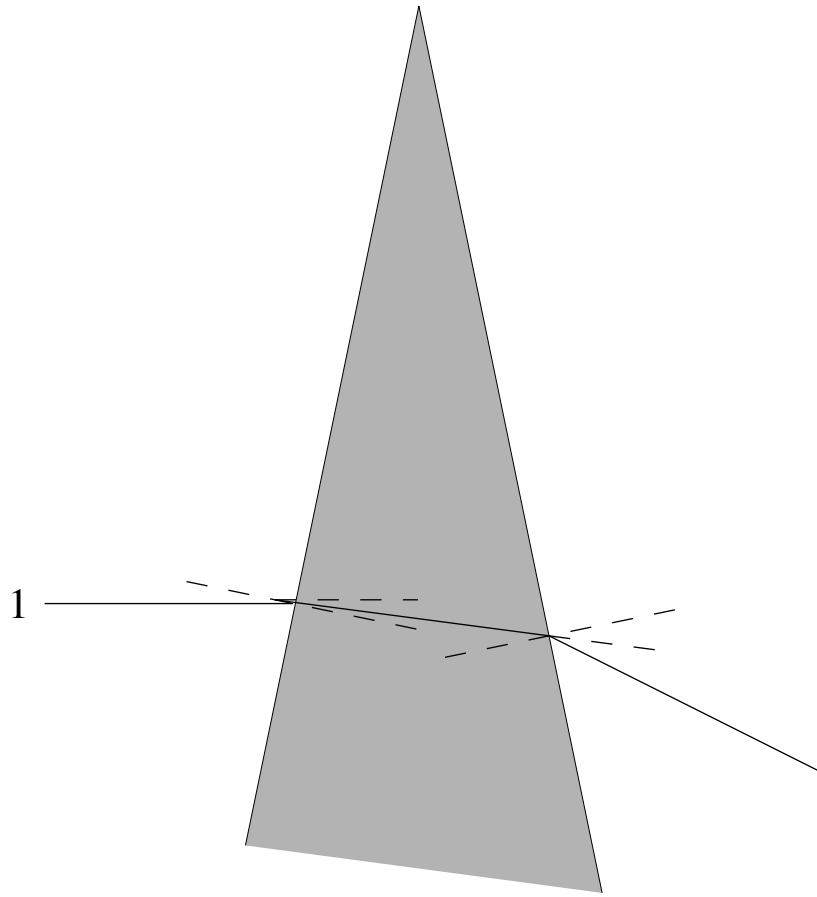


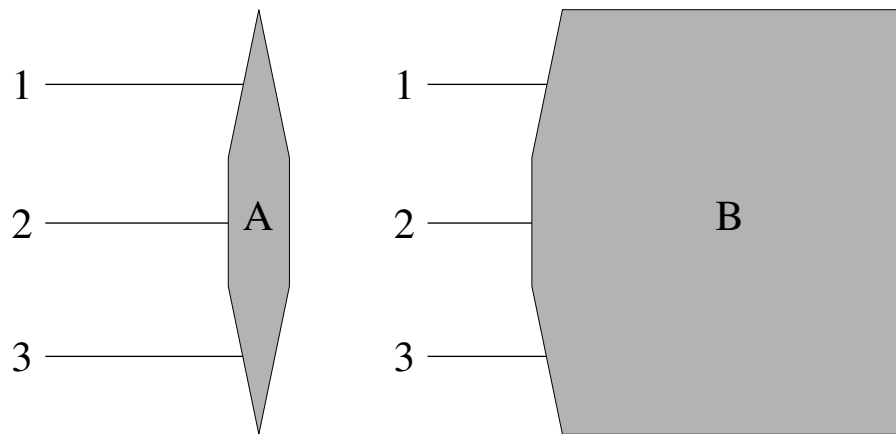
Three parallel rays of light travel to the hexagonally shaped piece of glass shown below. After entering the glass, the three rays



1. exit the glass parallel again.
2. exit the glass and converge onto a point.
3. exit the glass and diverge.
4. remain in the glass due to the total internal reflection.
5. None of the above.

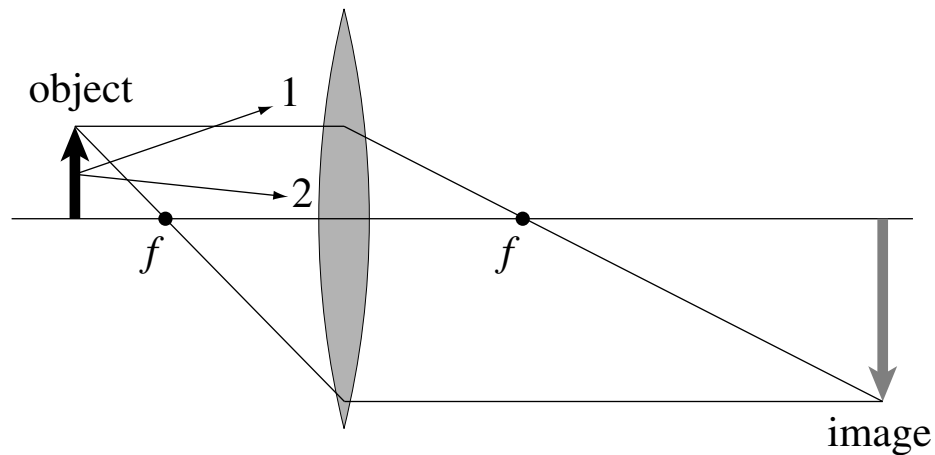


Three parallel rays of light travel to the two pieces of glass, A and B, shown below. For which piece of glass do the rays converge to a point closest to the surface of the glass



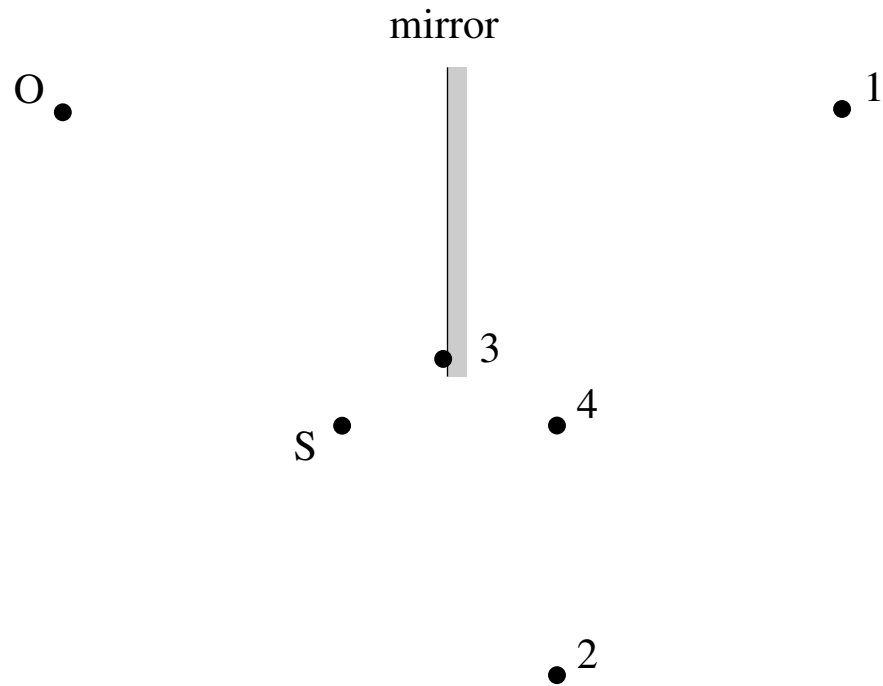
1. Piece A.
2. Piece B.
3. The same for both.

The two principal rays shown determine the position of the top of the image of the arrow. How many additional principal rays are required to determine how rays 1 and 2 continue?



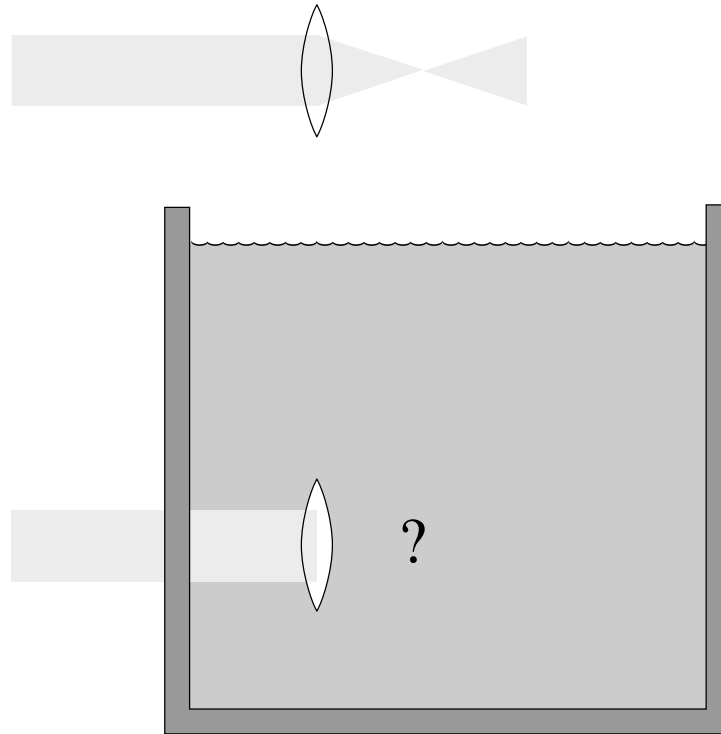
1. 1
2. 2
3. 3
4. 4
5. none of the above

An observer O , facing a mirror, observes a light source S . Where does O perceive the mirror image of S to be located?



1. 1
2. 2
3. 3
4. 4
5. Some other location.
6. The image of S cannot be seen by O when O and S are located as shown.

A parallel beam of light is sent through an aquarium. If a convex glass lens is held in the water, it focuses the beam



1. closer to the lens than
2. at the same position as
3. farther from the lens than

outside the water.

A lens is used to image an object onto a screen.
If the right half of the lens is covered,

1. the left half of the image disappears.
2. the right half of the image disappears.
3. the entire image disappears.
4. the image becomes blurred.
5. the image becomes fainter.