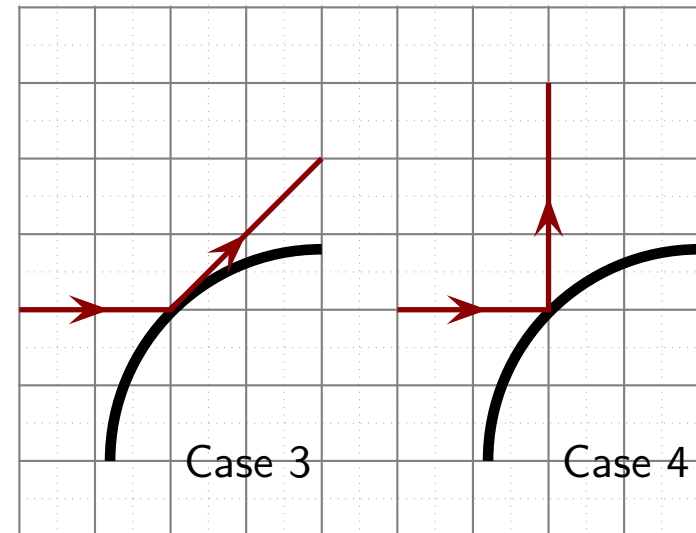
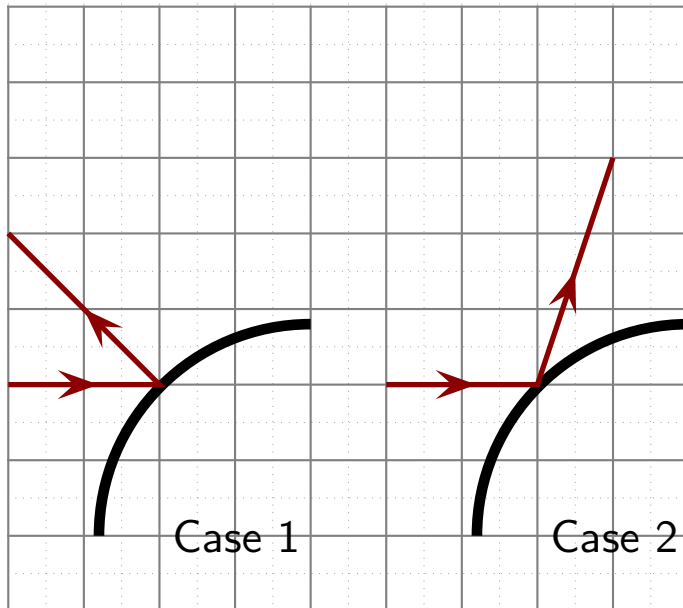


Question 1

A light ray is incident on a smooth curved surface as illustrated. Which of the following indicates the reflected light ray correctly?



Warm Up Question 1

A laser emits a narrow beam of light and this travels toward a perfectly flat surface. Various observers are at different locations and they all attempt to observe the reflected laser beam. Is it possible that they can all observe the reflected laser beam and detect where it hit the surface? Explain your answer.

1. Yes. As long as the angle of incidence equals the angle of reflection.
2. Yes. The light will scatter off the surface in all directions.
3. No. The light will just be reflected in one direction.

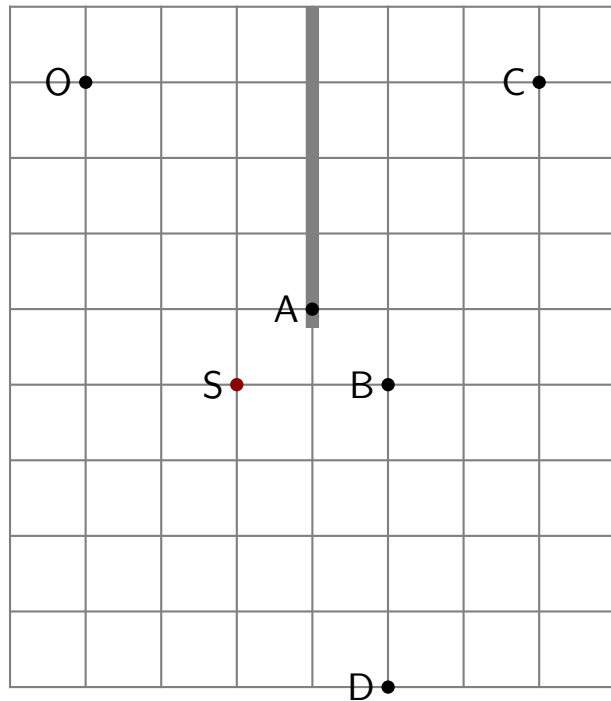
Warm Up Question 2

Suppose that you stand 2.0 m in front of a plane mirror that is mounted on a vertical wall. Explain as precisely as possible where your image produced by the mirror is located in relation to the wall (e.g. at the wall, in front of the wall, etc,...).

1. Somewhere behind the wall.
2. Exactly 2.0 m behind the wall.
3. Just in front of the wall.
4. Exactly at the wall.

Question 2

An observer labeled O, faces a mirror and observes a point light source S. Where is the image of S located, according to O?

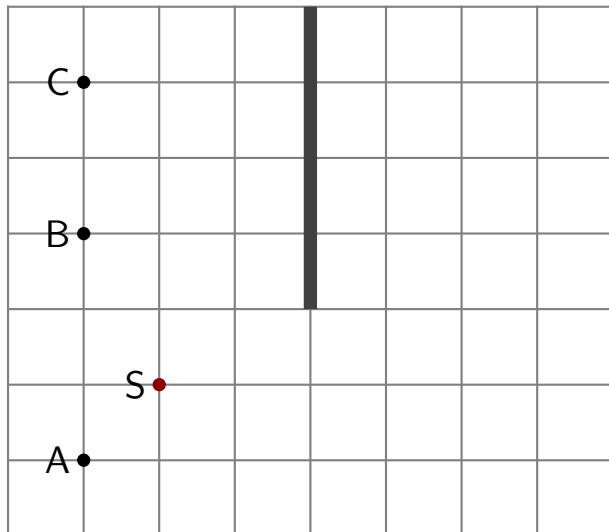


Where is the image of S located according to O?

1. A
2. B
3. C
4. D
5. O cannot see an image of S.

Question 3

Three observers, A, B and C, and an object, labeled S, are placed in front of a mirror as illustrated.

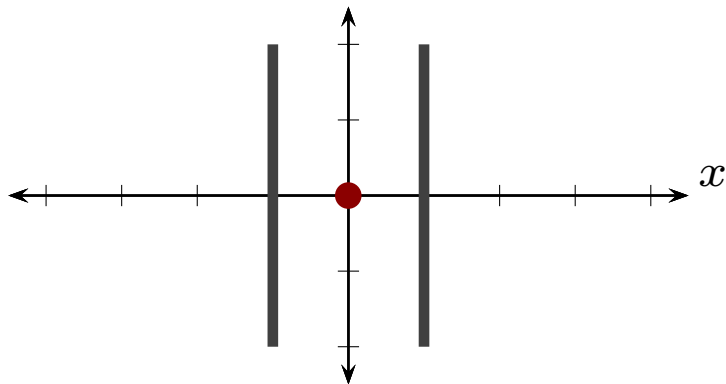


Which of the observers can see the image of the object?

1. Only C
2. Only B
3. Only B and C
4. Only A and C
5. Only A and B

Question 4

An object is placed between two parallel mirrors as illustrated. The horizontal units are marked in meters.



The images produced by the mirrors are located at:

1. $x = 2 \text{ m}, 3 \text{ m}, \dots$
2. $x = \pm 2 \text{ m}, \pm 3 \text{ m}, \pm 4 \text{ m}, \dots$
3. $x = \pm 2 \text{ m}, \pm 4 \text{ m}, \pm 6 \text{ m}, \dots$
4. $x = \pm 2 \text{ m}$