

Solve a Mirror Maze Challenge with the Law of Reflection

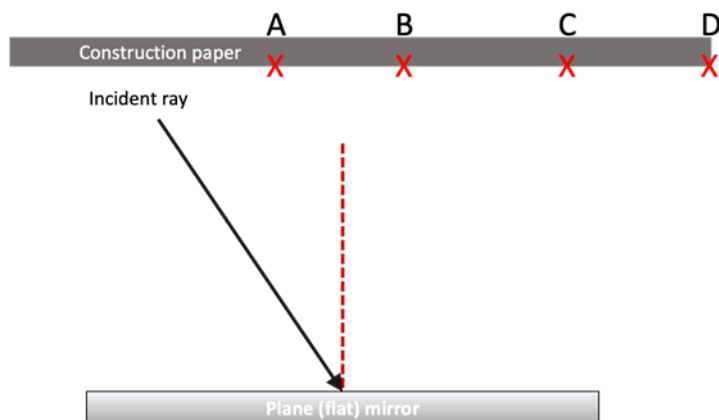
Name: _____

Date: _____

Student quiz — *Answer key*

Directions: Select the correct answer for each question below.

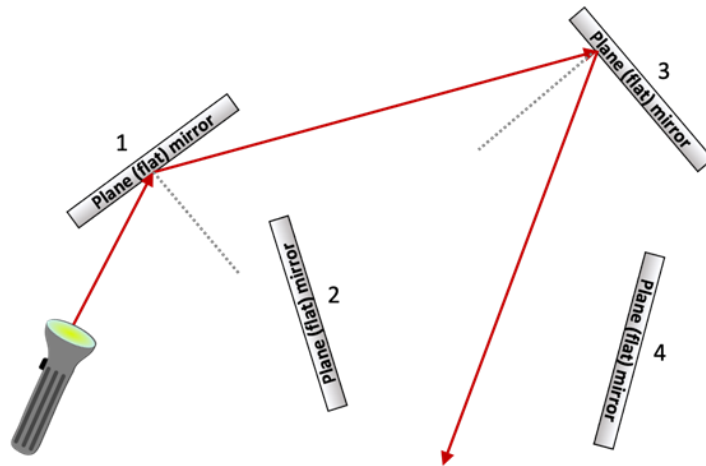
- What is the angle of reflection of a light ray?
 - The angle that is formed by the light ray hitting the reflecting surface and the line perpendicular to that surface.
 - The angle that is formed by the light ray bouncing back from the reflective surface and the line perpendicular to that surface.
 - The angle that is formed by the reflective surface and the imaginary line perpendicular to the reflective surface.
 - The angle that is formed by the light ray falling onto the reflecting surface and the light ray bouncing back from the reflective surface.
- In the image below, at which spot does the reflected ray hit the construction paper? Explain your reasoning using the law of reflection.



- A
- B
- C
- D

Explanation: The incident ray and the normal line (red dashed line) form the angle of incidence. The law of reflection states that the angle of incidence and the angle of reflection are equal. This means that the angle between the reflected ray and the normal line is the same as the angle of the incident ray and the normal line. Once the angle of reflection is known, we know how the ray will be reflected and travel in a straight line toward the construction paper.

3. If you turned on the flashlight in the image below, in which sequence would the light hit the different mirrors?



- a. 1, 3, 2, 4
 - b. 1, 2
 - c. 1, 3, 2
 - d. 1, 3**
4. The angle of incidence is always...
- a. between 0 and 90 degrees.**
 - b. greater than 45 degrees.
 - c. between 0 and 45 degrees.
 - d. 0 degrees.
5. According to the law of reflection, what is true about the angle of incidence and the angle of reflection?
- a. angle of incidence > angle of reflection
 - b. angle of reflection > angle of incidence
 - c. angle of incidence = angle of reflection**
 - d. angle of reflection $\neq$ angle of incidence