Light, Shadows and Reflection

Practice Sheet

Estimate Time : 20 minutes **Maximum Marks : 10**

Instructions

- This test contains 6 questions.
- Q.1 to Q.3 are one-mark questions, to be answer in about one word or one sentence.
- Q.4 & Q.5 are two-mark questions, to be answer in about 50 words.
- Q.6 is three-mark question, to be answer in about 80 words.

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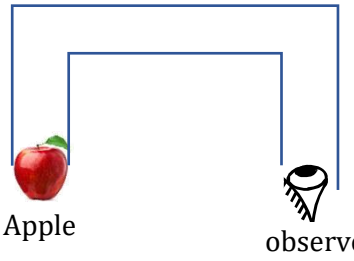
1. Give two examples of opaque objects.

2.



In the figure above how many plane mirrors are required to see the apple by the observer?

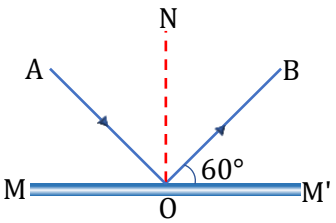
3. Fill in the blanks.

(i) An image which is always inverted _____. (real/virtual)

(ii) An image formed by the plane mirror _____. (real/virtual)

4. Write any four properties of image formed by a plane mirror.

5. See the figure below.



(i) Which ray is incident ray?

(ii) What is the angle between the plane mirror and the incident ray?

(iii) Find the angle of incidence.

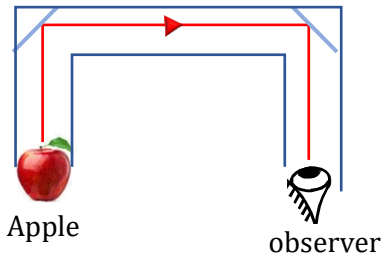
(iv) Find the angle of reflection.

6. How a periscope works? Where it can be used?

Practice Sheet Solutions

1. Steel glass, wooden table.

2. Two plane mirror are required.



3. (i) real (ii) virtual

4. Any two

(i) Image is of same size as object.

(ii) Image is virtual and erect.

(iii) It is laterally inverted.

(iv) Distance between object and mirror is equal to distance between image and mirror.

5. (i) AO (ii) 60° (iii) 90°–60°= 30° (iv) 30°

6. Periscope

The periscope makes use of multiple reflection of light. A periscope is an instrument for observation from a hidden position. In its simplest form, it consists of a tube with mirrors at each end set parallel to each other at a 45° angle.

Uses : For observation purposes in the trenches or bunkers during World War I. Military personnel also use periscopes in some gun turrets and in armoured vehicles like tanks. Periscopes allow a submarine, when submerged at a shallow depth, to search visually for nearby targets and threats on the surface of the water and in the air.