



SpeedLabs

MATHS

CBSE 7th

TEEVRA EDUTECH PVT. LTD.

Visualizing Solid Shapes

Exercise-15.4

Q.1 A bulb is kept burning just right above the following solids. Name the shape of the shadows obtained in each case. Attempt to give a rough sketch of the shadow. (You may try to experiment first and then answer these questions).



A ball

A cylindrical pipe

A book

(i)

(ii)

(iii)

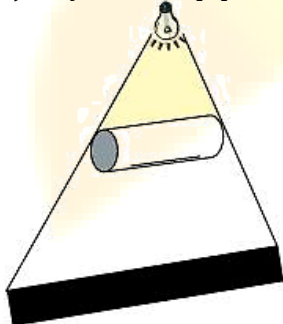
Sol: The shapes of the shadows of these figures will be as follows.

(i) A ball



The shape of the shadow of a ball will be a circle.

(ii) A cylindrical pipe



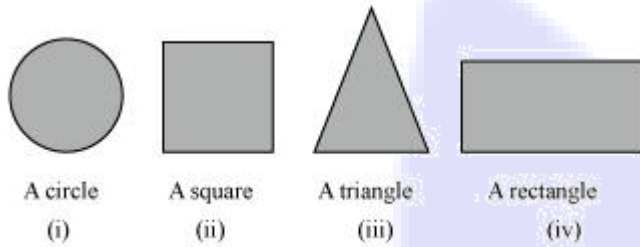
The shape of the shadow of a circular pipe will be a rectangle.

(iii) A book



The shape of the shadow of a book will be a rectangle.

Q.2 Here are the shadows of some 3-D objects, when seen under the lamp of an overhead projector. Identify the solids (s) that match each shadow. (There may be multiple answers for these!)



Sol: The given shadows can be obtained in case of the following objects.

- i. Compact disk
- ii. A dice
- iii. Triangular pyramid
- iv. Note Book

Q.3 Examine if the following are true statements:

- (i) The cube can cast a shadow in the shape of a rectangle.
- (ii) The cube can cast a shadow in the shape of a hexagon.

Sol: A cube can cast shadow only in the shape of a square. Therefore, any other shapes are not possible.