

Board – CBSE

Class – 7th

Topic – Visualizing Solid Shapes 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)

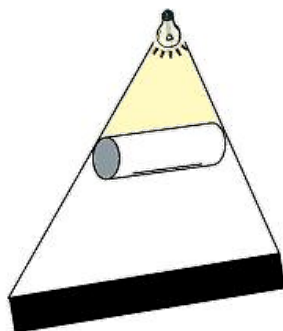
Sol: The shapes of the shadows of these figures will be as follows.

(i) A ball



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

(ii) A cylindrical pipe



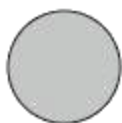
The shape of the shadow of a circular pipe will be a rectangle.

(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!)



A circle
(i)



A square
(ii)



A triangle
(iii)



A rectangle
(iv)

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.