

# NCERT SOLUTIONS

## CLASS-VII MATHS

### CHAPTER-15 VISUALISING SOLID SHAPES

#### Exercise-15.1

Q.1. Identify the nets which can be used to make cubes (cut out copies of the nets and try it):

Q.1

Solution:

Cube's nets are (2), (3), (4) and (6).

Q.2. There are dots on each side of a cubical dice. The sum of the dots on opposite sides of the dice is 7. Two shapes are given with empty boxes which constitute a dice. Fill the empty boxes with a suitable number such that the sum of the numbers on the opposite sides should be equal to 7.

Insert suitable numbers in the blanks, remembering that the number on the opposite faces should total to 7.

Solution:

Q.3. Is the given figure forms a die? Justify your answer.

Q.3

Solution: No, this cannot be a net for a die. Because one pair of opposite faces will have 1 and 4 on them and another pair of opposite faces will have 3 and 6 on them whose total is not equal to 7.

Q.4. Make a cube from the incomplete net that is given in the figure. Note that a cube has 6 faces and make this cube in two ways.

Solution: There are three faces given:

Q.5. Match the nets with appropriate solids:

Q.5

Solution:

#### Exercise-15.2

Q.1. Use isometric dot paper and make an isometric sketch for each one of the given shapes:

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**Solution:**

(i) and (ii)

11

(iii) and (iv)

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**Q.2. The dimensions of a cuboid are 5 cm, 3 cm and 2 cm. Draw three different isometric sketches of this cuboid.**

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**Solution:** The dimensions of given cuboid are 5 cm, 3 cm and 2 cm:

Three different isometric sketches are:

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**Q.3. Three cubes each with 2 cm edge are placed side by side to form a cuboid. Sketch an oblique or isometric sketch of this cuboid.**

**Solution:**

Oblique sketch:

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Isometric sketch:

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**Q.4. Make an oblique sketch for each one of the given isometric shapes:**

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**Solution:**

Oblique sketches:

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**Q.5. Give (i) an oblique sketch and (ii) an isometric sketch for each of the following:**

(a) A cuboid of dimensions 5 cm, 3 cm and 2 cm. (Is your sketch unique?)

(b) A cube of dimension 4 cm .

**Solution:**

(a) A cuboid of dimension 5 cm, 3 cm and 2 cm.

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(b) A cube of dimension 4 cm .

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**Q.6. An isometric sheet is attached at the end of the book. You could try to make some cubes or cuboids of dimensions**

specified by your friend.

**Solution:** Cubes and cuboids shapes on the isometric sheet are given below:

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You can also draw more shapes of cubes and cuboids.

### Exercise-15.3

**Q.1.** When you are given a vertical cut and horizontal cut, what type of cross sections would you get?

- (a) A brick
- (b) An apple
- (c) A die
- (d) A circular pipe

**Solution:**

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### 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).

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**Solution:**

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

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**Solution:**

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**Q.3.** Examine if the following are true or false:

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

**Solution:**

- (a) True
- (b) False