

NCERT Solutions for 7th Class Maths: Chapter 15-Visualising Solid Shapes



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NCERT Solutions for 7th Class Maths: Chapter 15-Visualising Solid Shapes

Class 7: Maths Chapter 15 solutions. Complete Class 7 Maths Chapter 15 Notes.

NCERT Solutions for 7th Class Maths: Chapter 15-Visualising Solid Shapes

NCERT 7th Maths Chapter 15, class 7 Maths Chapter 15 solutions

Exercise 15.1

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

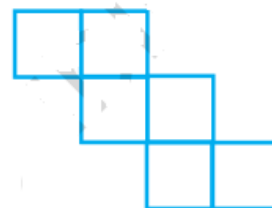
<https://www.indcareer.com/schools/ncert-solutions-for-7th-class-maths-chapter-15-visualising-solid-shapes/>



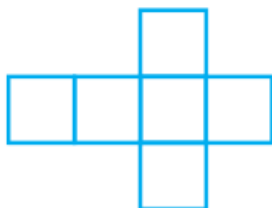
(i)



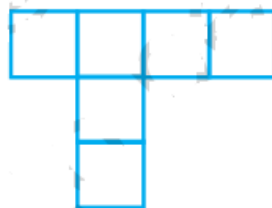
(ii)



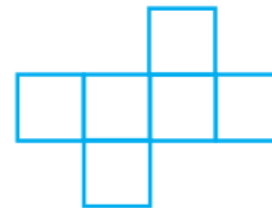
(iii)



(iv)



(v)



(vi)

Answer

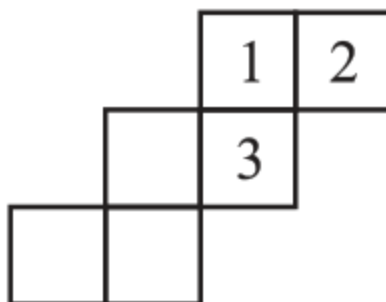
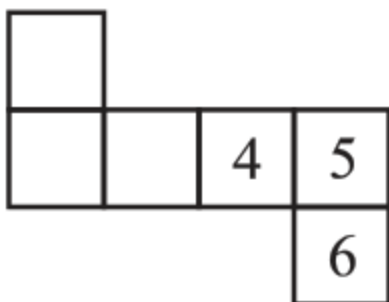
Cube's nets are (ii), (iii), (iv) and (vi).

2. Dice are cubes with dots on each face. Opposite faces of a die always have a total of seven dots on them.



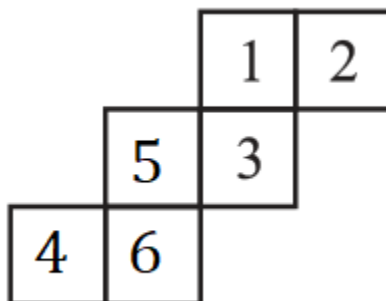
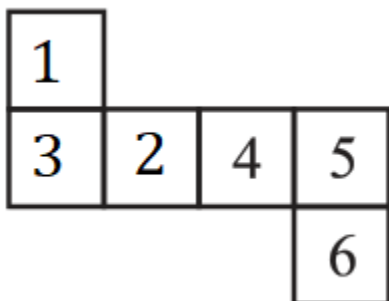
Here are two nets to make dice (cubes); the numbers inserted in each square indicate the number of dots in that box.

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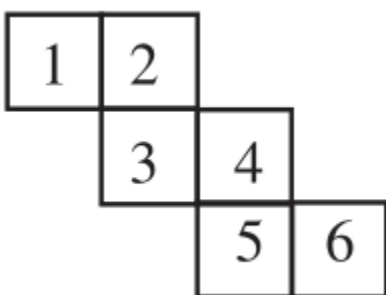


Insert suitable numbers in the blanks, remembering that the number on the opposite faces should total to 7.

Answer



3. Can this be a net for a die? Explain your answer.

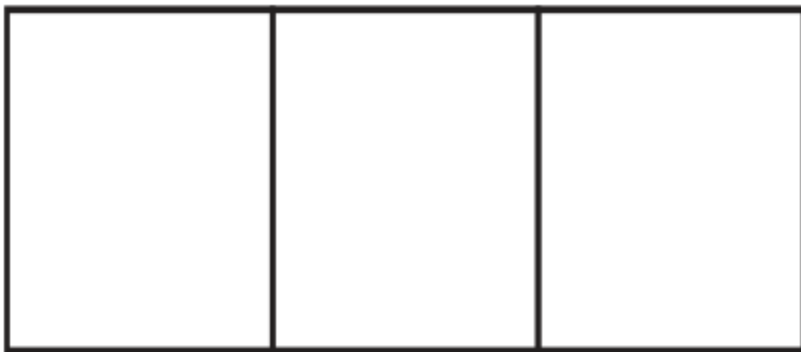


Answer

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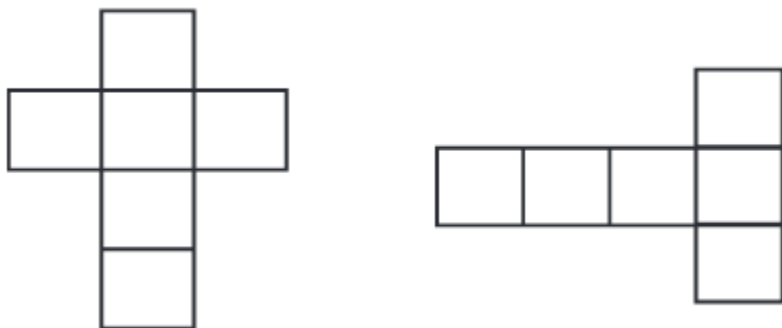
No, this cannot be a net for a die because one pair of opposite faces will have 1 and 4 on them and another pair of opposite faces will have 3 and 6 on them whose total is not equal to 7.

4. Here is an incomplete net for making a cube. Complete it in at least two different ways. Remember that a cube has six faces. How many faces are there in the net here? (Give two separate diagrams. If you like, you may use a squared sheet for easy manipulation.)



Answer

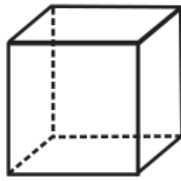
There are three faces in the net.



5. Match the nets with appropriate solids:

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(a)



(b)



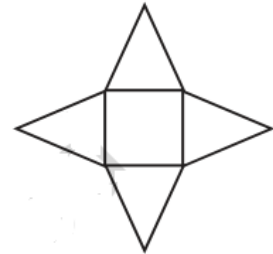
(c)



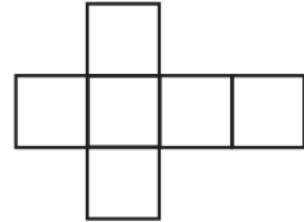
(d)



(i)



(ii)



(iii)



(iv)



Answer

(a) - (ii)

(b) - (iii)

(c) - (iv)

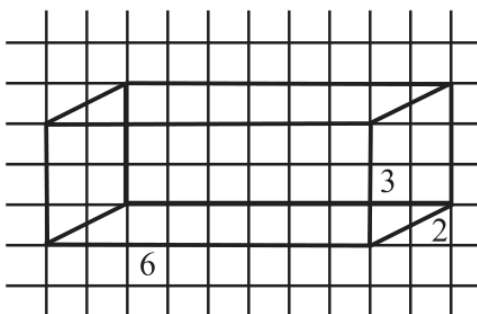
(d) - (i)

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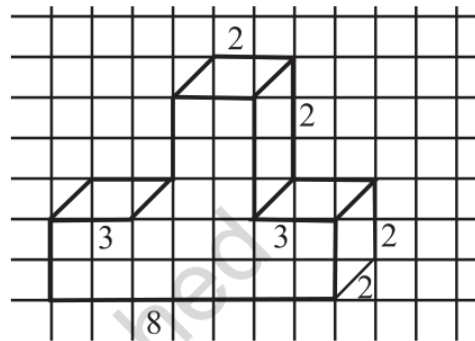
Exercise 15.2

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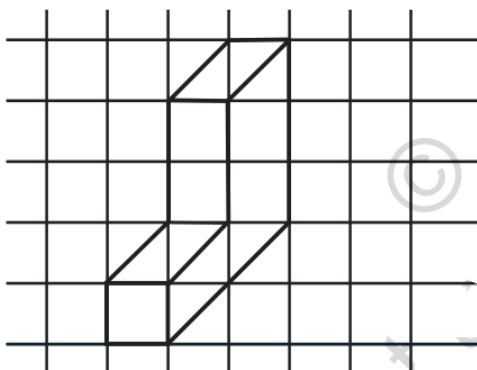
1. Use isometric dot paper and make an isometric sketch for each one of the given shapes:



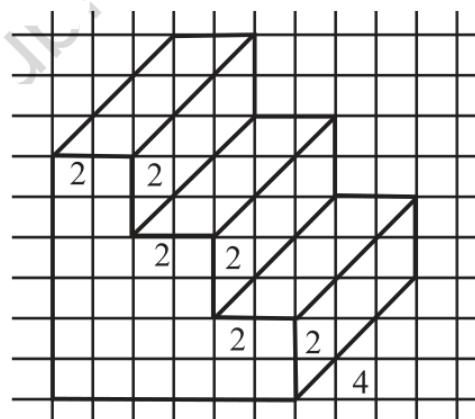
(i)



(ii)



(iii)



(iv)

Fig 15.15

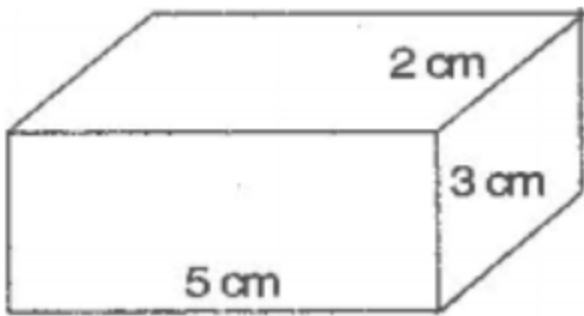
Answer

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

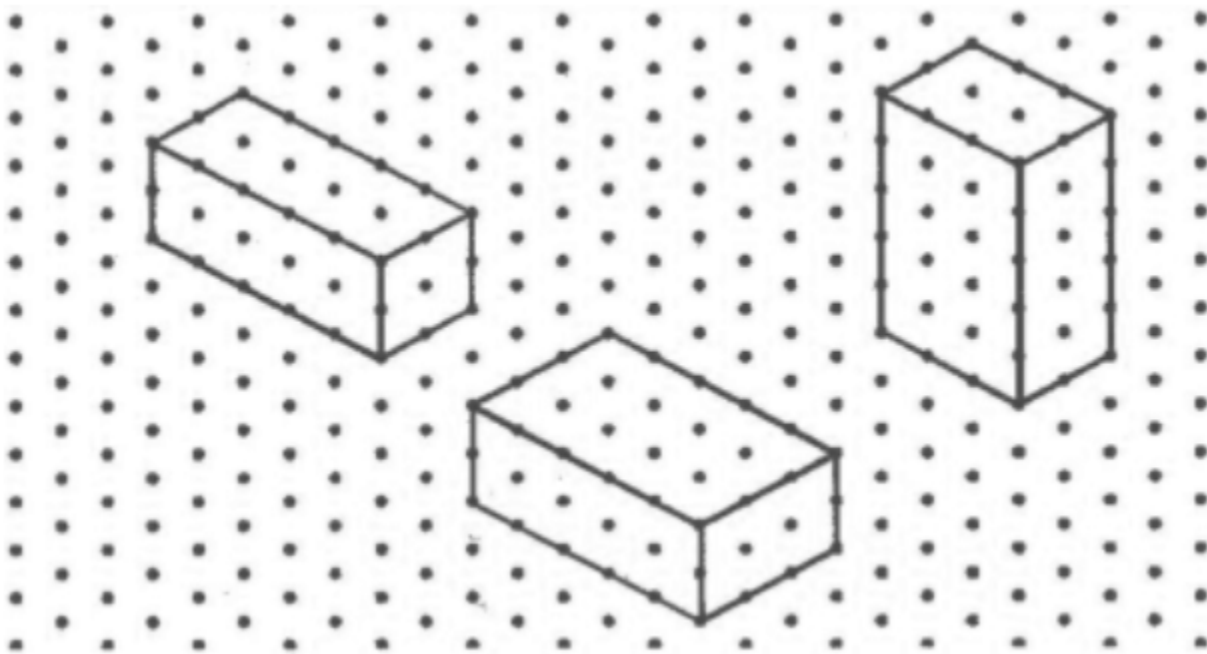
Answer

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

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Three different isometric sketches are:

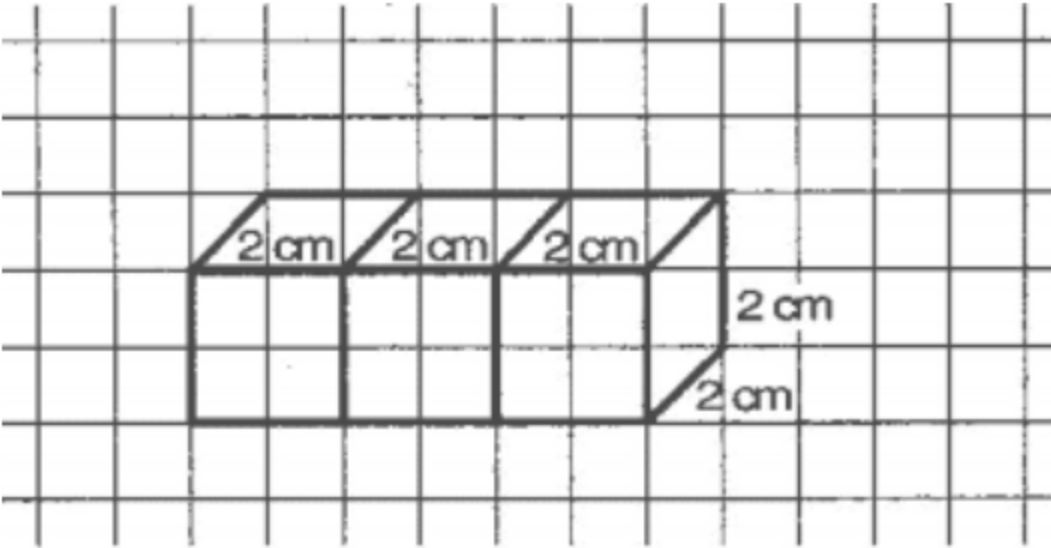


3. Three cubes each with 2 cm edge are placed side by side to form a cuboid. Sketch an oblique or isometric sketch of this cuboid.

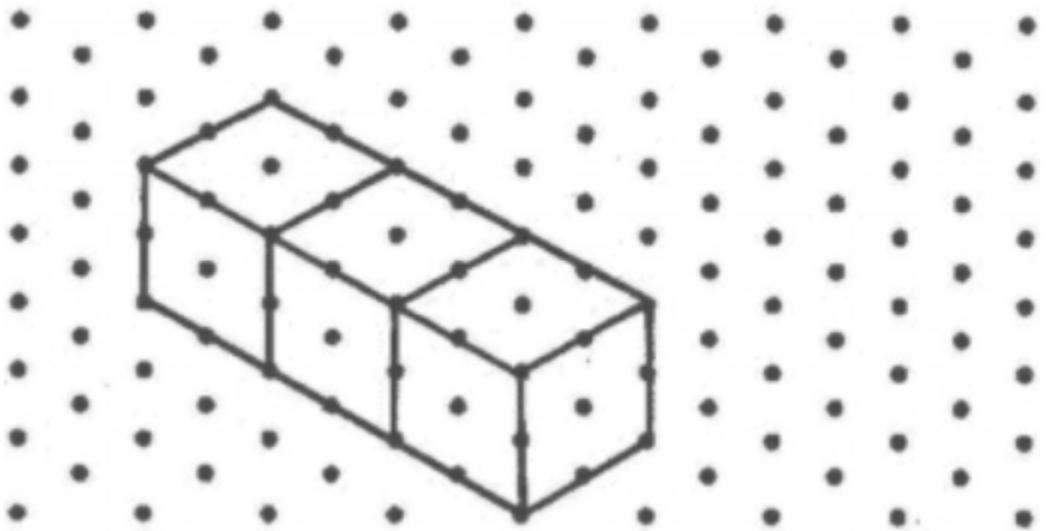
Answer

Oblique sketch:

<https://www.indcareer.com/schools/ncert-solutions-for-7th-class-maths-chapter-15-visualising-solid-shapes/>

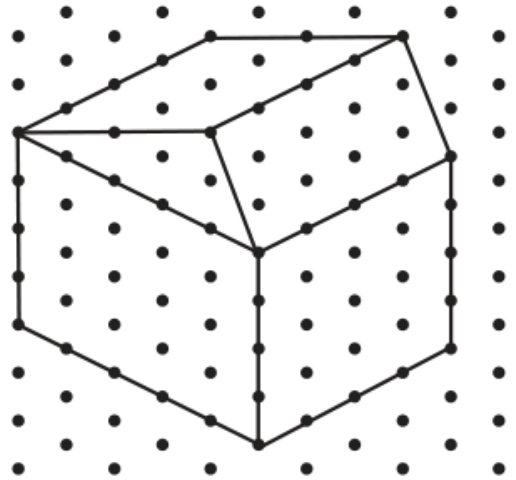
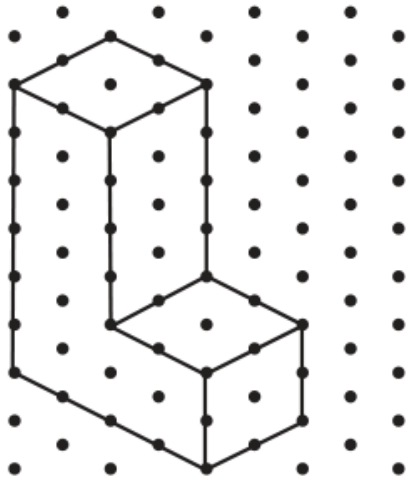


Isometric sketch



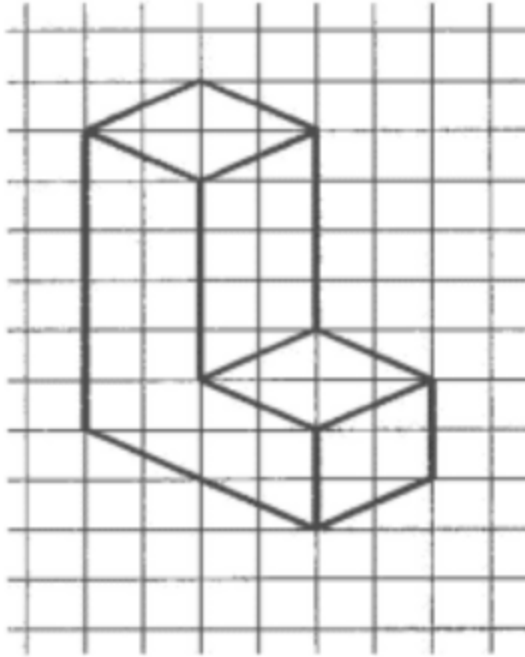
4. Make an oblique sketch for each one of the given isometric shapes:

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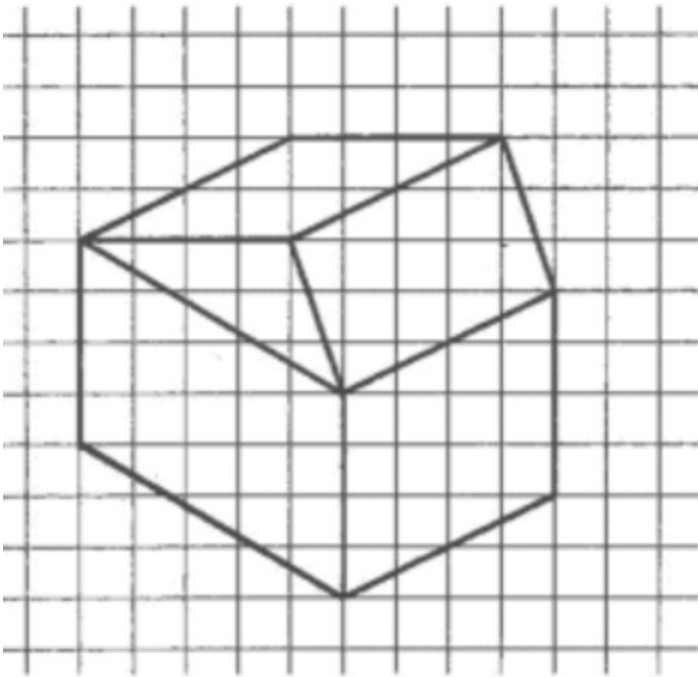


Answer

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(a)



(b)

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5. Give

(i) an oblique sketch and (ii) an isometric sketch for each of the following:

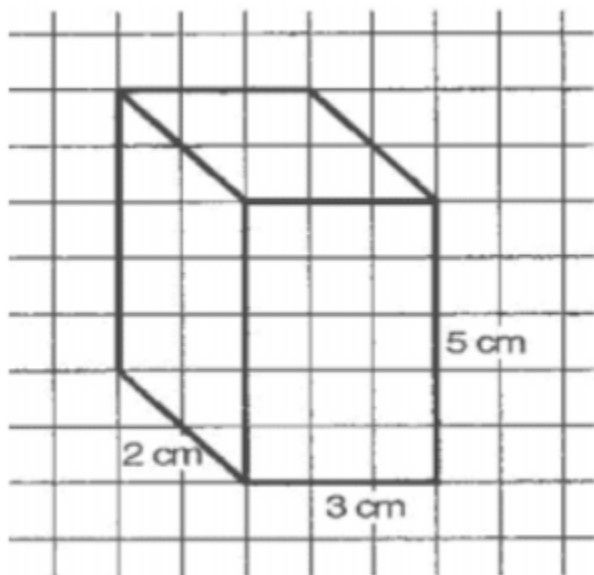
(a) A cuboid of dimensions 5 cm, 3 cm and 2 cm. (Is your sketch unique?)

(b) A cube with an edge 4 cm long.

Answer

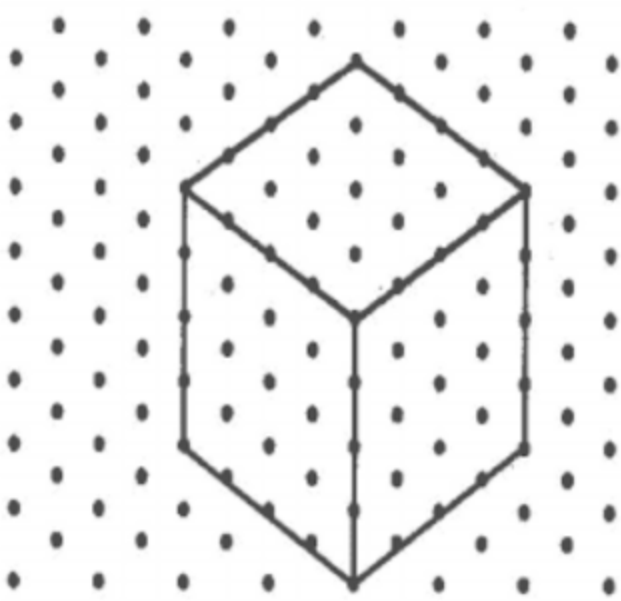
(a) A cuboid of dimensions 5 cm, 3 cm and 2 cm.

(i) Oblique sketch



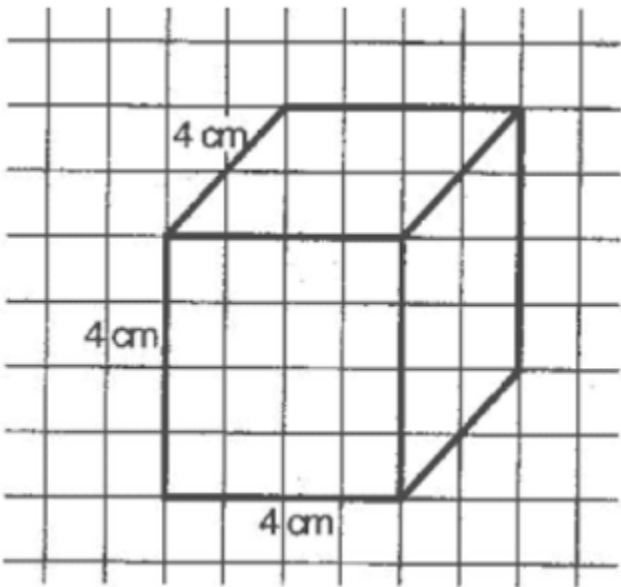
(ii) Isometric sketch

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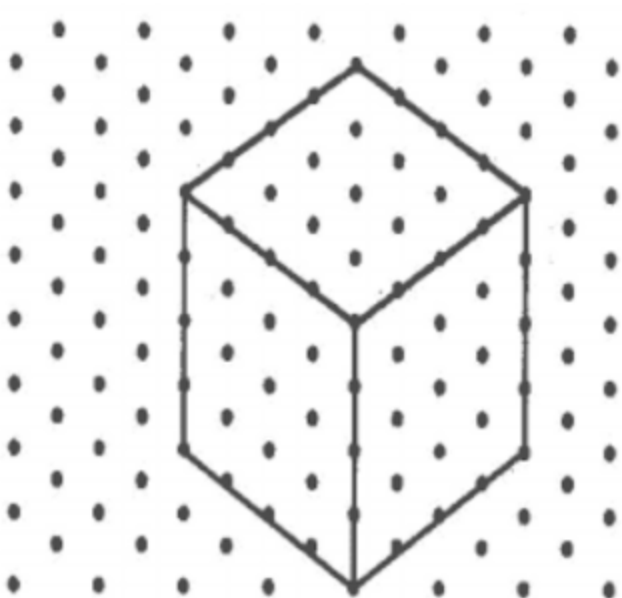
(b) A cube with an edge 4 cm long.

(i) Oblique sketch



(ii) Isometric sketch

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6. An isometric sheet is attached at the end of the book. You could try to make on it some cubes or cuboids of dimensions specified by your friend.

Answer

Do it yourself.

NCERT 7th Maths Chapter 15, class 7 Maths Chapter 15 solutions

Exercise 15.3

1. What cross-sections do you get when you give a:

(i) vertical cut (ii) horizontal cut to the following solids?

(a) A brick

(b) A round apple

(c) A die

(d) A circular pipe

(e) An ice-cream cone.

Answer

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(i) Vertical cut:

- (a) A brick – Cuboid
- (b) A round apple - Circular
- (c) A die – Square
- (d) A circular pipe - Circular
- (e) An ice cream cone – Curved shape

(ii) horizontal cut

- (a) A brick - Cuboid
- (b) A round apple - Circular
- (c) A die - Cuboid
- (d) A circular pipe - Hemispherical
- (e) An ice cream cone - Frustum

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Exercise 15.4

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.

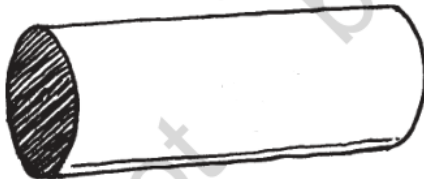
(You may try to experiment first and then answer these questions).

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A ball

(i)



A cylindrical pipe

(ii)



A book

(iii)

Answer

(i) A Ball - Circle

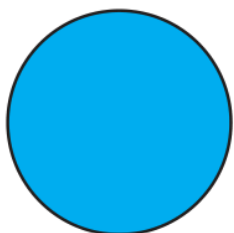
(ii) A cylindrical pipe - Line

(iii) A Book - Rectangle

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!)

A circle



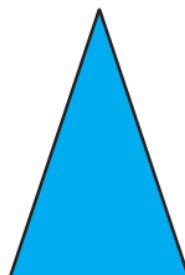
(i)

A square



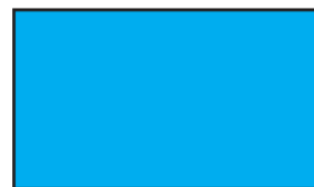
(ii)

A triangle



(iii)

A rectangle



(iv)

Answer

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- (i) Circle - Chapatti, Football, Disc, Plate etc.
- (ii) Square - Die, Square paper sheet, cubical magic box, Chalk box etc.
- (iii) Triangle - Ice-cream cone, Birthday cap, etc.
- (iv) Rectangle - Geometry box, Book, Table etc.

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.**

Answer

- (i) True
- (ii) False.



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- Chapter 1 Integers
- Chapter 2 Fractions and Decimals
- Chapter 3 Data Handling
- Chapter 4 Simple Equations
- Chapter 5 Lines and Angles
- Chapter 6 The Triangle and its Properties
- Chapter 7 Congruence of Triangles
- Chapter 8 Comparing Quantities
- Chapter 9 Rational Numbers
- Chapter 10 Practical Geometry
- Chapter 11 Perimeter and Area
- Chapter 12 Algebraic Expressions
- Chapter 13 Exponents and Powers
- Chapter 14 Symmetry
- Chapter 15 Visualising Solid Shapes

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