

Checkpoint 100

1) Ball
2) Orange

1) Book
2) Dice

- Give two examples of real life objects that have (a) only a curved (b) only plane surfaces.
- Match the pictures to the descriptions and name the shapes.

(a) I have 5 faces and 5 corners. I have 8 edges.
1 of my faces is a square and 4 of my faces are triangles. Square Pyramid

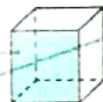
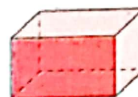
(b) I have 1 flat face, 1 curved face, and 1 edge.
Cone

(c) I have 1 curved face. I have no edges or corners. Sphere

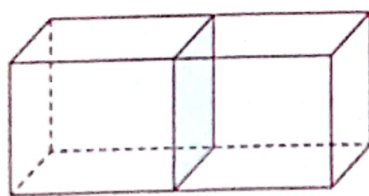
(d) I have 2 flat faces, 1 curved face, and 2 edges.
I have no corners. Cylinder

(e) I have 5 faces, 6 corners, and 9 edges, and 2 of my faces are triangles. Triangular prism

(f) I have 6 faces, 12 edges, and 8 corners.
Cuboid



- Look at the figure in which two rectangular prisms are joined end-to-end. What is the name of the new 3D shape formed?



(Large rectangular prism)
or
(cuboid)

- What happens to the shape of the faces of a prism if you slice it parallel to the base?

The shape of the faces remains the same

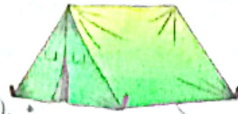


5. Match the real-life examples of prisms in Column A with their correct prism type in Column B. (Real Life Connect)

Column A: Real-Life Example of a Prism

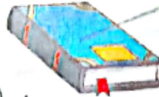
Column B: Type of Prism

(a) An A-frame tent



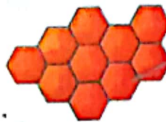
Triangular Prism

(b) A book



Rectangular Prism

(c) A honeycomb cell



Hexagonal Prism

(d) A gift box



Pentagonal Prism

(i) Rectangular Prism

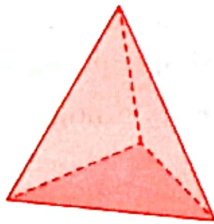
(ii) Hexagonal Prism

(iii) Pentagonal Prism

(iv) Triangular Prism

6. Count and write faces (F) and vertices (V) in each of the following pyramid. Do you notice a relationship between F and V. $F = V$

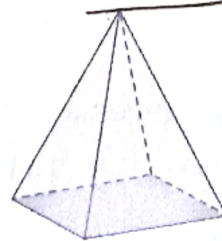
(a)



Faces : 4

Vertices : 4

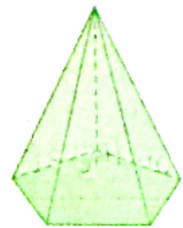
(b)



Faces : 5

Vertices : 5

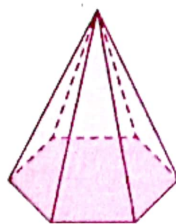
(c)



Faces : 6

Vertices : 6

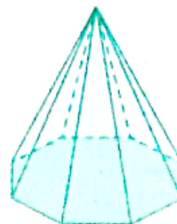
(d)



Faces : 7

Vertices : 7

(e)



Faces : 8

Vertices : 8



7. A 3D shape with flat faces has 8 faces and 12 vertices, and 18 edges. Verify Euler formula for the shape.

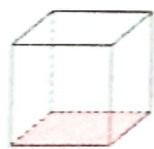
From this view, we can easily draw a site map of the park showing:

- The shape and location of the grassy areas.
- Where the paths go.
- The position of the buildings or structures in the park.
- Where the trees are planted around the park.
- See all the possible paths.
- Trace a route with finger or a pencil.
- Compare different routes to see which one is shorter.

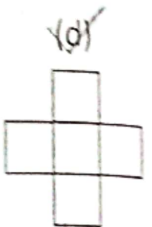
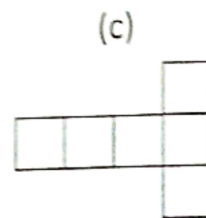
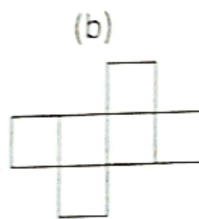
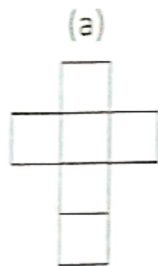
Imagine we want to walk from the park entrance (bottom) to the playground. By looking at the site map from the drone's view, we can easily see which path looks like the most direct way to get there.

Checkpoint 10E

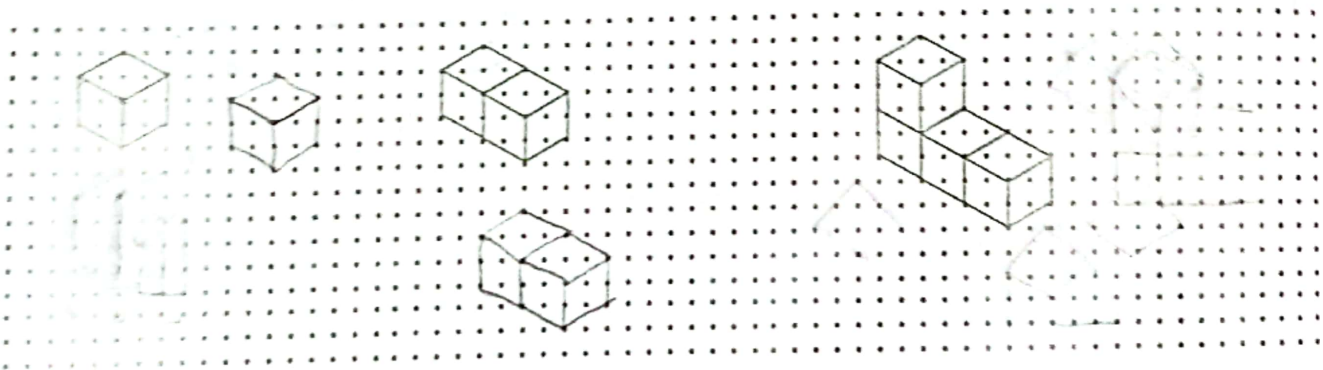
1. Which of the following is a net of an empty open cube (without lid).



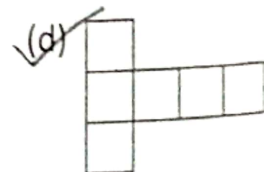
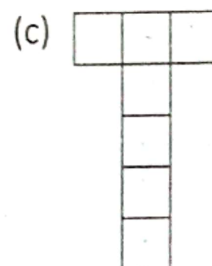
Cube



2. Redraw the solid shapes given on the dot grid in the space provided.



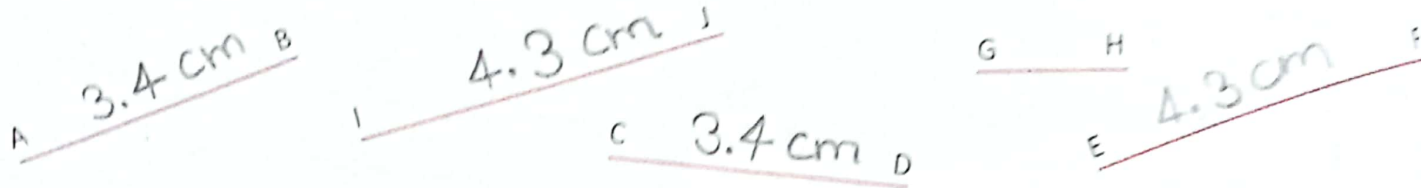
3. Ahaana is given a task to draw the net of a closed cube comprising 6 identical squares arranged in a specific manner. She drew four arrangements as shown below. Only one of them is correct. Identify it.



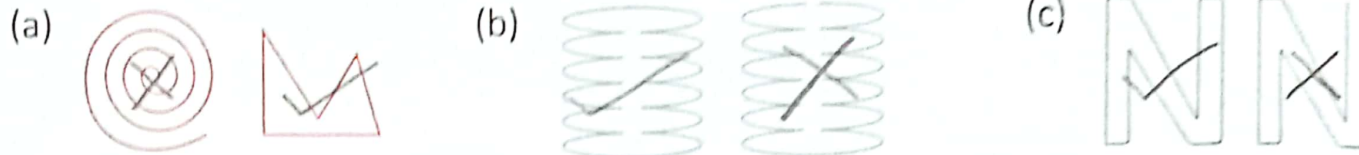
Let Us Assess

AB & CD $\rightarrow$ 3.4 cm
IJ & EF $\rightarrow$ 4.3 cm

1. Using a ruler, determine which line segments have the same length.



2. Tick (✓) the closed curve and cross (X) the open curve in each pair of curves.



3. Give an example of each from the real world that gives an idea of

(a) a point: Tip of pencil
(b) a line: Edge of a table
(c) a plane: Blackboard (Real Life Connect)

4. Draw two meaningful figures in the blank boxes using slant, vertical, horizontal and curved lines in the same figure. One is done for you.



5. Lengths of two line segments are shown on a ruler in the given figure.



Find the length of

(a) $\overline{AC}$ 3cm

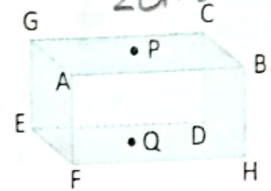
(b) $\overline{BD}$ 1cm

(c) $\overline{AB} - \overline{AC}$
6cm - 3cm
3cm

(b) $\overline{AD} - \overline{AC}$
5cm - 3cm
2cm

6. Answer the following questions.

- (a) How many faces are there in the figure of the cuboid?
(b) Name all the shaded planes.
(c) Name the plane which contains point P but not point Q.
(d) How many planes are not shaded? Name them.



7. Name the shape:

- (a) The shape has one curved face and one flat face. Hemisphere
(b) The shape has 9 edges, it has 2 triangular faces, and 6 vertices. Triangular Prism
8. What shape do you see when you look at your pencil box from the side? Also, draw its plan elevation and side view.
9. Can you construct a 3D shape with 3 flat faces? NO

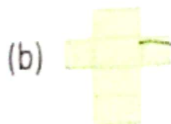
10. Match each net to one of the 3D shapes.

Nets

3D shapes



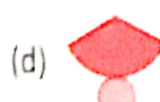
(i)



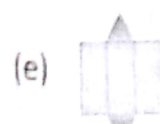
(ii)



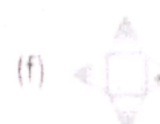
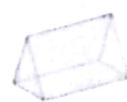
(iii)



(iv)



(v)



(vi)

