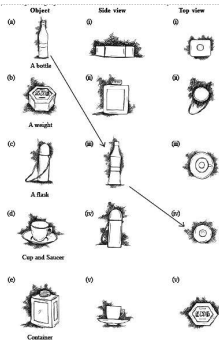


#463185

Topic: Introduction



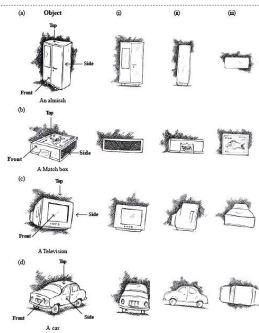
For each of the given solid, the two views are given. Match for each solid the corresponding top and front views. The first one is done for you.

Solution

- b) side view (i) and top view (v)
- c) side view (iv) and top view (ii)
- d) side view (v) and top view (iii)
- e) side view (ii) and top view (i)

#463187

Topic: Introduction



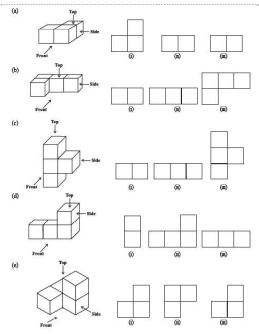
For each of the given solid, the three views are given. Identify for each solid the corresponding top, front and side views.

Solution

- a) i) Front view ii) Side view iii) Top view
- b) i) Side view ii) Front view iii) Top view
- c) i) Front view ii) Side view iii) Top view
- d) i) Front view ii) Side view iii) Top view

#463188

Topic: Introduction



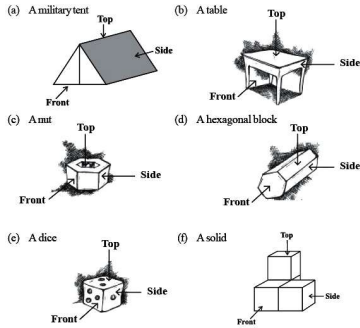
For each given solid, identify the top view, front view and side view.

Solution

- a) i) Top view ii) Side view iii) Front view
- b) i) Side view ii) Front view iii) Top view
- c) i) Top view ii) Side view iii) Front view
- d) i) Side view ii) Front view iii) Top view
- e) i) Side view ii) Top view iii) Front view

#463189

Topic: Introduction



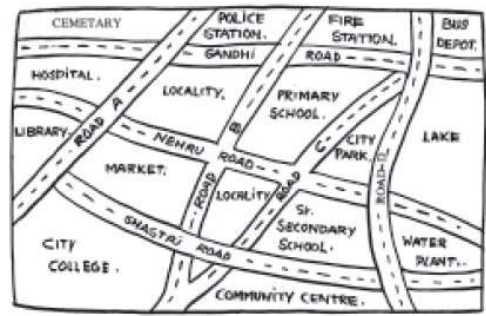
Draw the front view, side view and top view of the given objects.

Solution

Serial no.	Front view	Side view	Top view
a)			
b)			
c)			
d)			
e)			
f)			

#463194

Topic: Introduction



Look at the given map of a city.

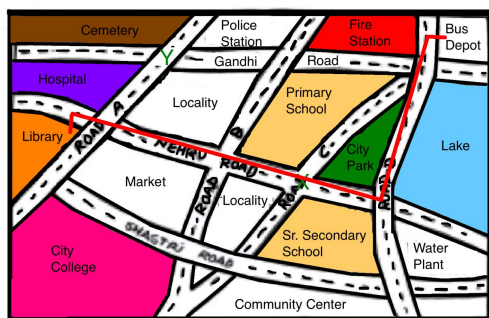
Answer the following.

- a) Colour the map as follows: Blue-Water, Red-Fire station, Orange-Library, Yellow-Schools, Green-park, Pink-College, Purple-Hospital, Brown-Cemetery.
- b) Mark a green 'X' at the intersection of Road 'C' and Nehru Road, Green 'Y' at the intersection of Gandhi Road and Road A.
- c) In red, draw a short street route from Library to the bus depot.
- d) Which is further east, the city park or the market?
- e) Which is further south, the primary school or the Sr. Secondary School?

Solution

d) City park is further east than market.

e) Sr. Secondary School is further south than Primary School



#463202

Topic: Polyhedrons

Can a polyhedron have for its faces

(i) 3 triangles?

(ii) 4 triangles?

(iii) a square and four triangles?

Solution

A polyhedron has to have a minimum of four faces. Hence (i) is not possible but (ii) and (iii) are possible.

A polyhedron with 4 triangles as faces is called a triangular pyramid and one with one square and four triangles is called a square based pyramid.

#463203

Topic: Polyhedrons

Is it possible to have a polyhedron with any given number of faces? (Hint: Think of a pyramid).

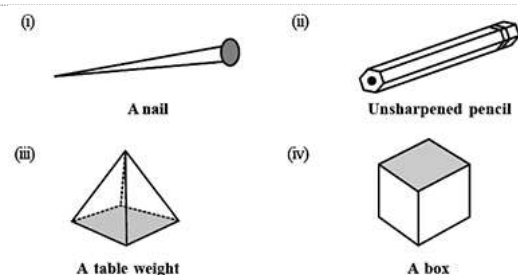
Solution

A polyhedron can have a minimum of four flat faces.

Hence, if the number of faces is greater than 4, then such a polyhedron can be formed.

#463204

Topic: Introduction



Which are prisms among the following?

Solution

Unsharpened pencil and the box are prisms because they have parallel surfaces.

#463206

Topic: Introduction

(i) How are prisms and cylinders alike?

(ii) How are pyramids and cones alike?

Solution

i) In prisms and cylinders, opposite faces are parallel and congruent.

ii) A pyramid has a number of triangular faces while a cone is obtained by revolving a triangle.

#463208

Topic: Polyhedrons



Verify Euler's formula for these solids.

Solution

Euler's formula says,

$F + V - E = 2$

i) $F = 7$

$V = 10$

$E = 15$

So, $F + V - E = 2$

ii) $F = 9$

$V = 9$

$E = 16$

So, $F + V - E = 2$

Hence, verified.

#463209

Topic: Polyhedrons

Using Euler's formula find the unknown.

Faces	?	5	20
Vertices	6	?	12
Edges	12	9	?

Solution

$F + V = E + 2$

$F + 6 + 12 + 2$

$F = 8$

$F + V = E + 2$

$5 + V = 9 + 2$

$V = 6$

$F + V = E + 2$

$20 + 12 = E + 2$

$E = 30$

#463210

Topic: Polyhedrons

Can a polyhedron have 10 faces, 20 edges and 15 vertices?

Solution

Euler's formula says,

$$F + V - E = 2$$

Here, $F = 10$

$$V = 15$$

$$E = 20$$

$$\text{So, } F + V - E = 10 + 15 - 20 = 5 \neq 2$$

So, such type of polyhedron is not possible.