Technical Drawings

1) Study the 3-D orthogonal drawings and the identification letters placed on it. Match the Letter to the corresponding number for each object.

_____1

_____2

_____3

_____4

_____5

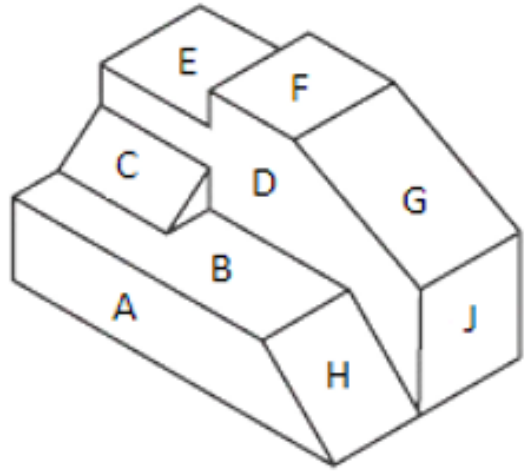
_____6

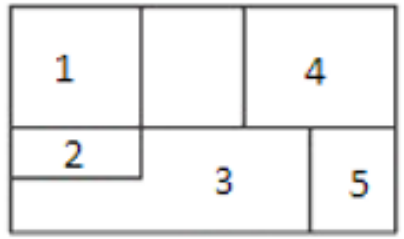
_____7

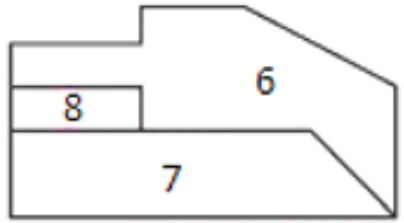
_____8

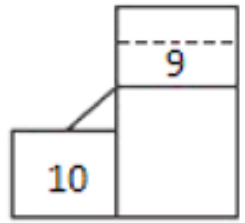
_____9

_____10





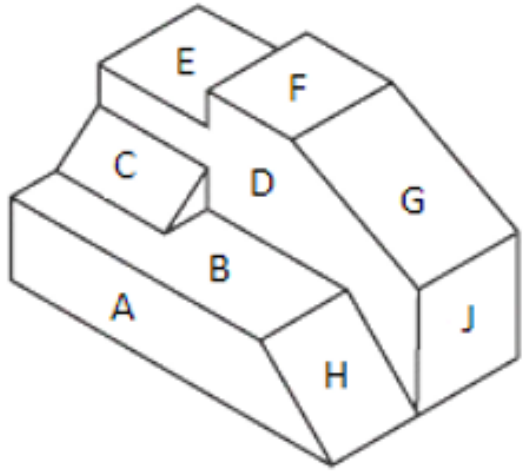


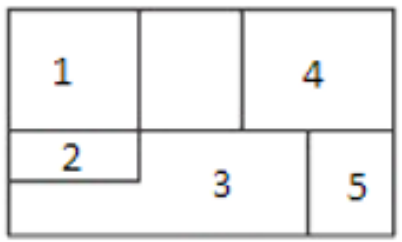


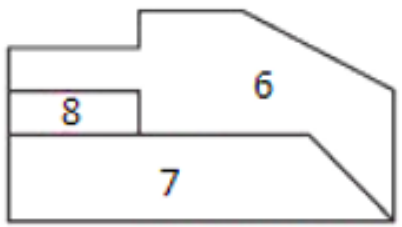
Technical Drawings

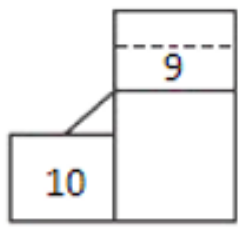
1) Study the 3-D orthogonal drawings and the identification letters placed on it. Match the Letter to the corresponding number for each object.

E 1
C 2
B 3
G 4
H 5
D 6
A 7
C 8
G 9
H 10

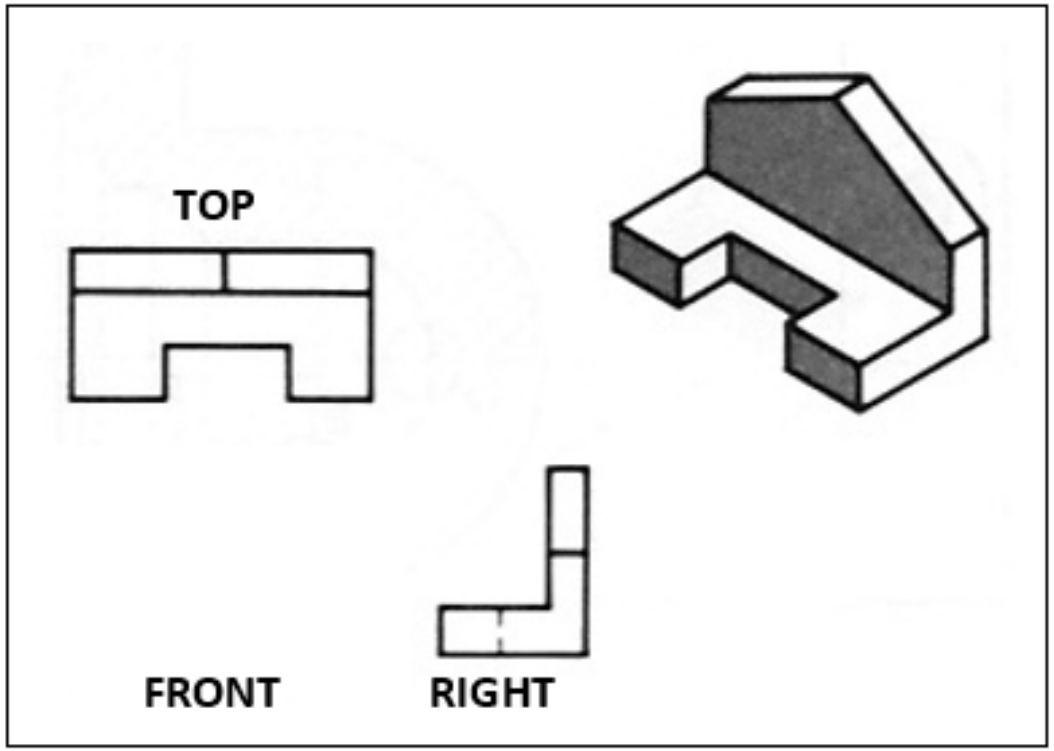


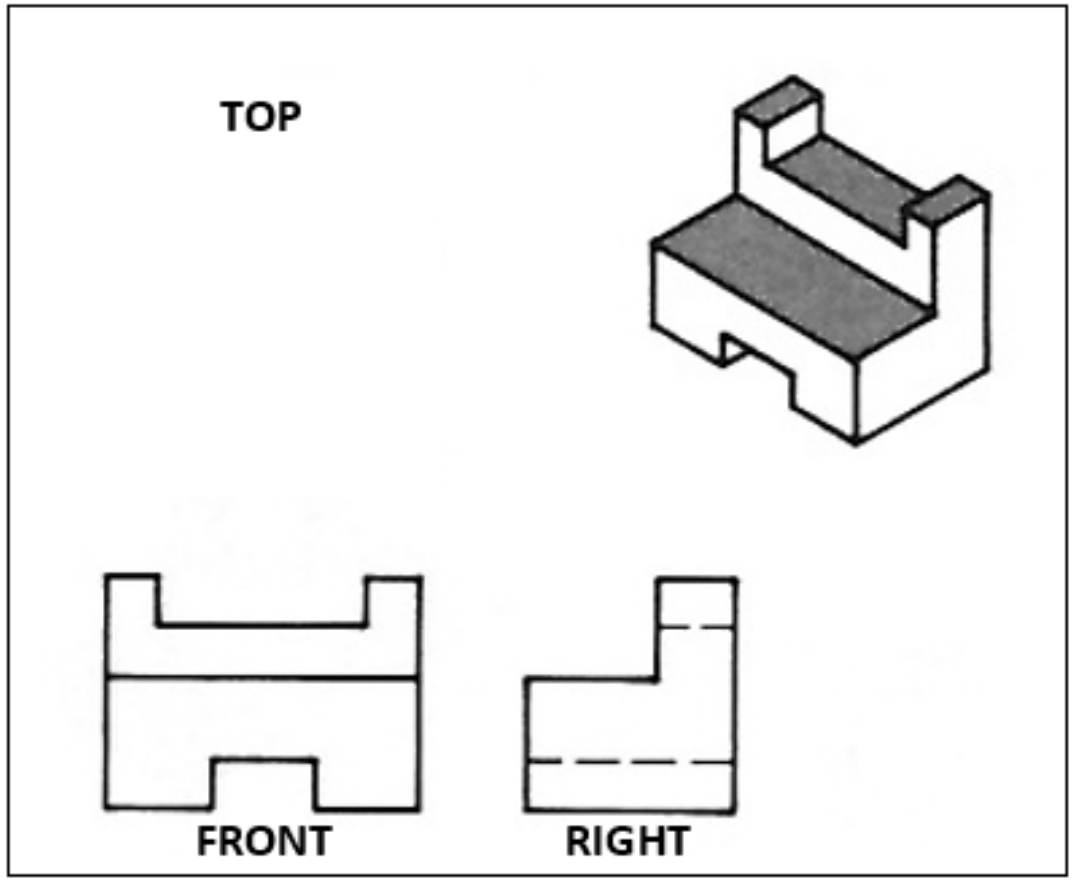


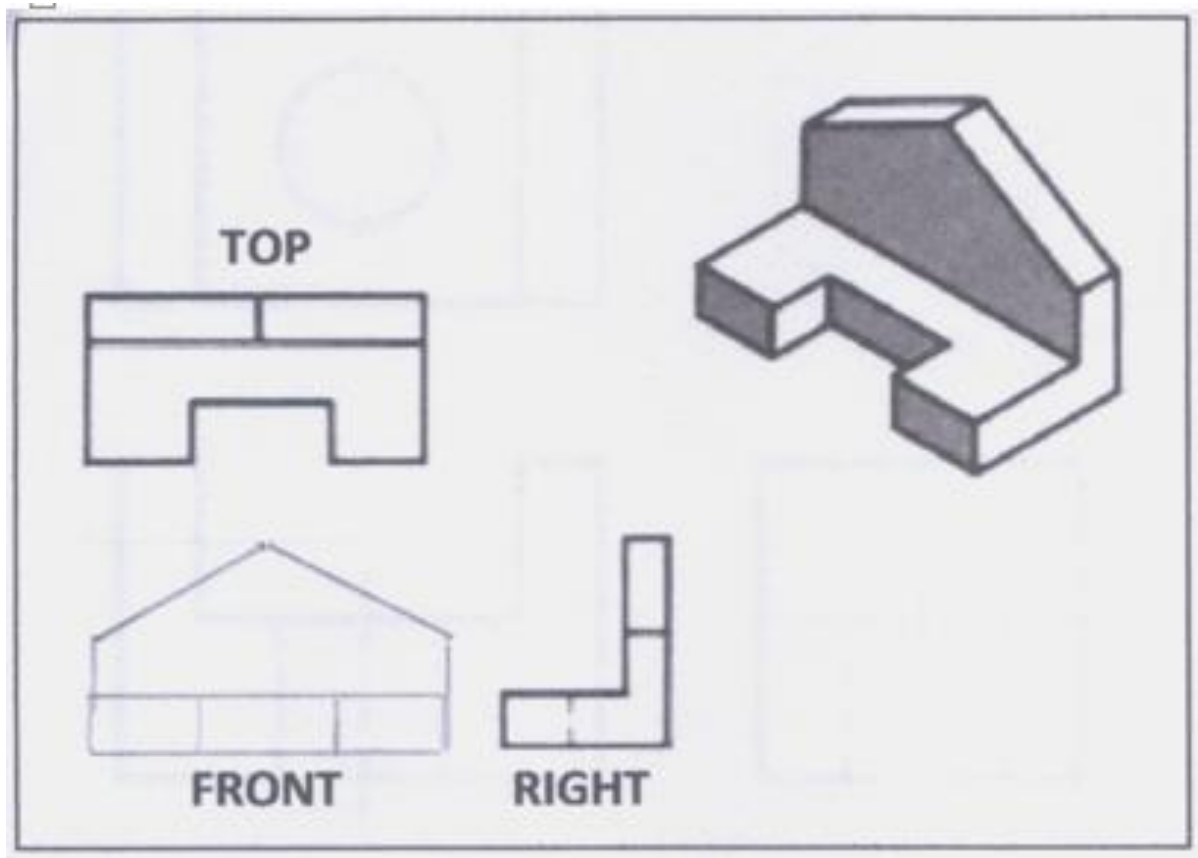


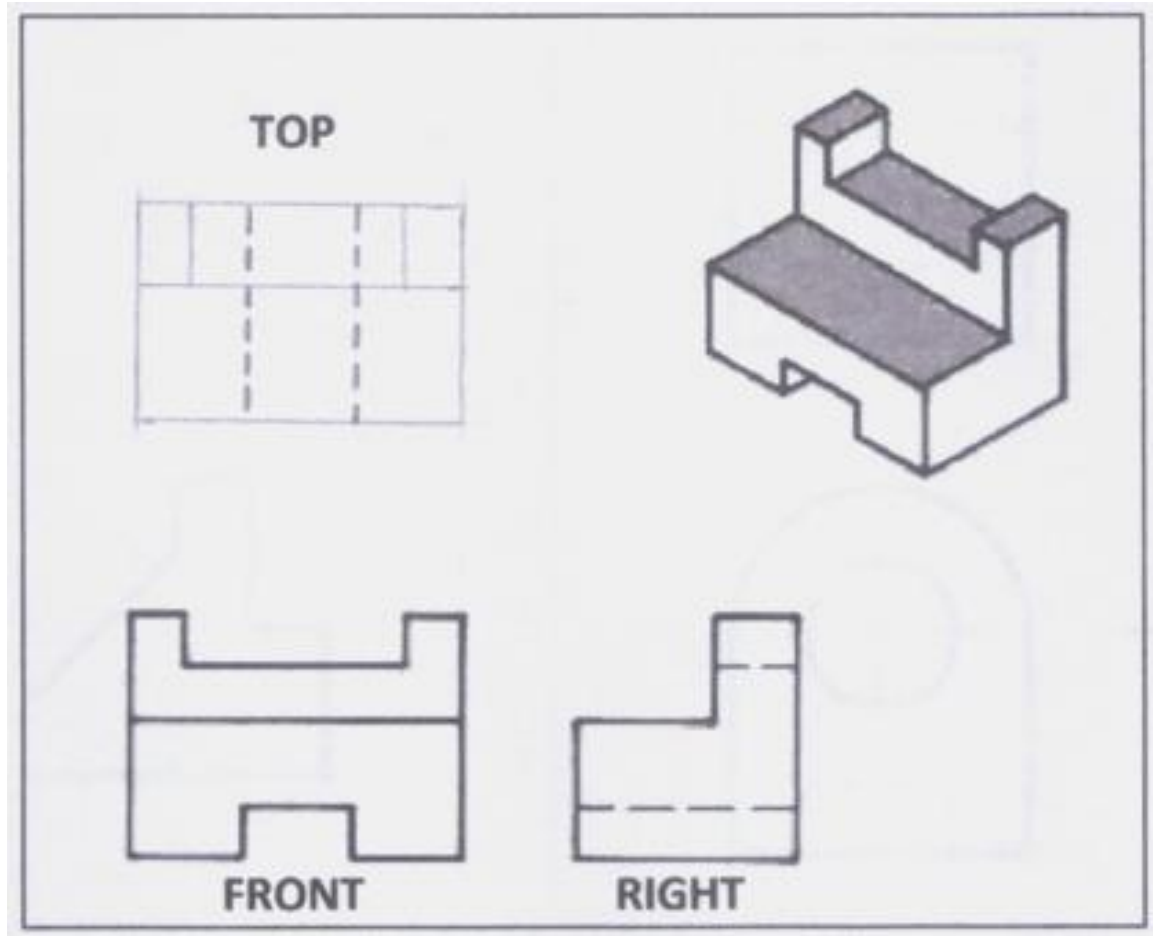


2) Draw in the missing view (either Top, Right, or Front) in the appropriate place. Use same scaling as given views.

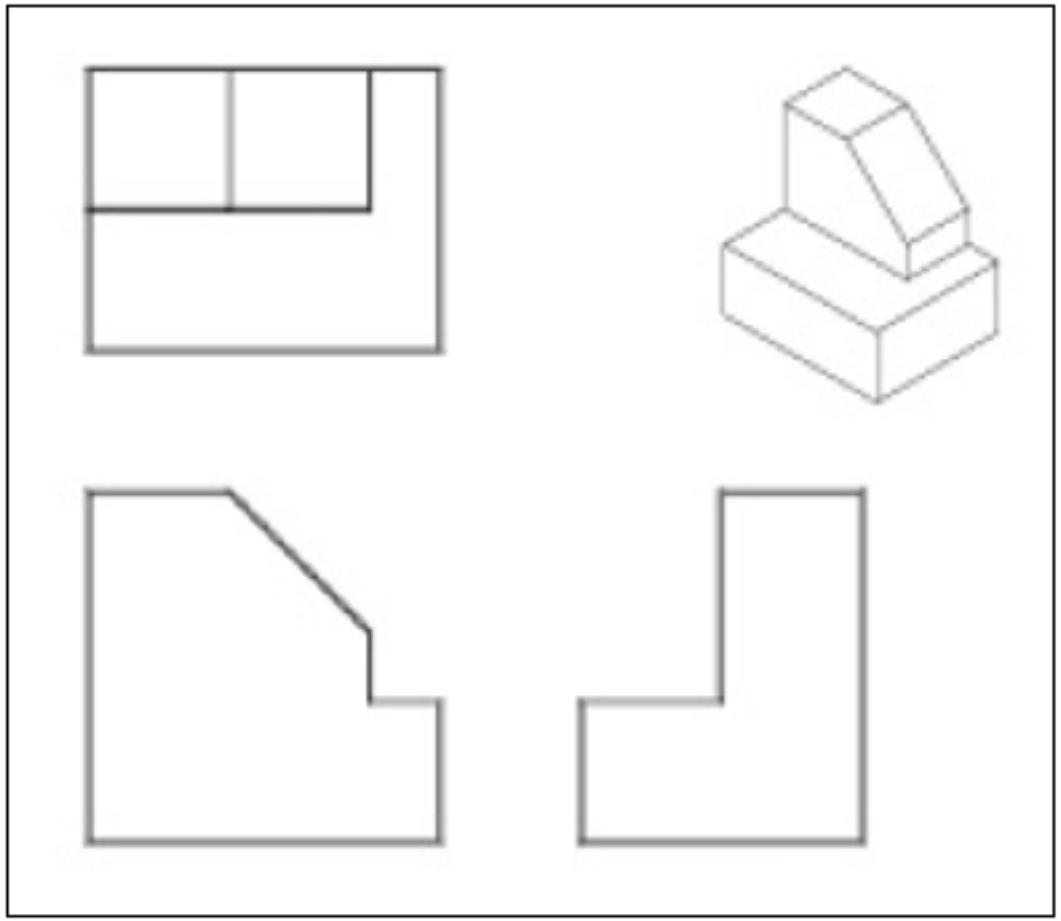


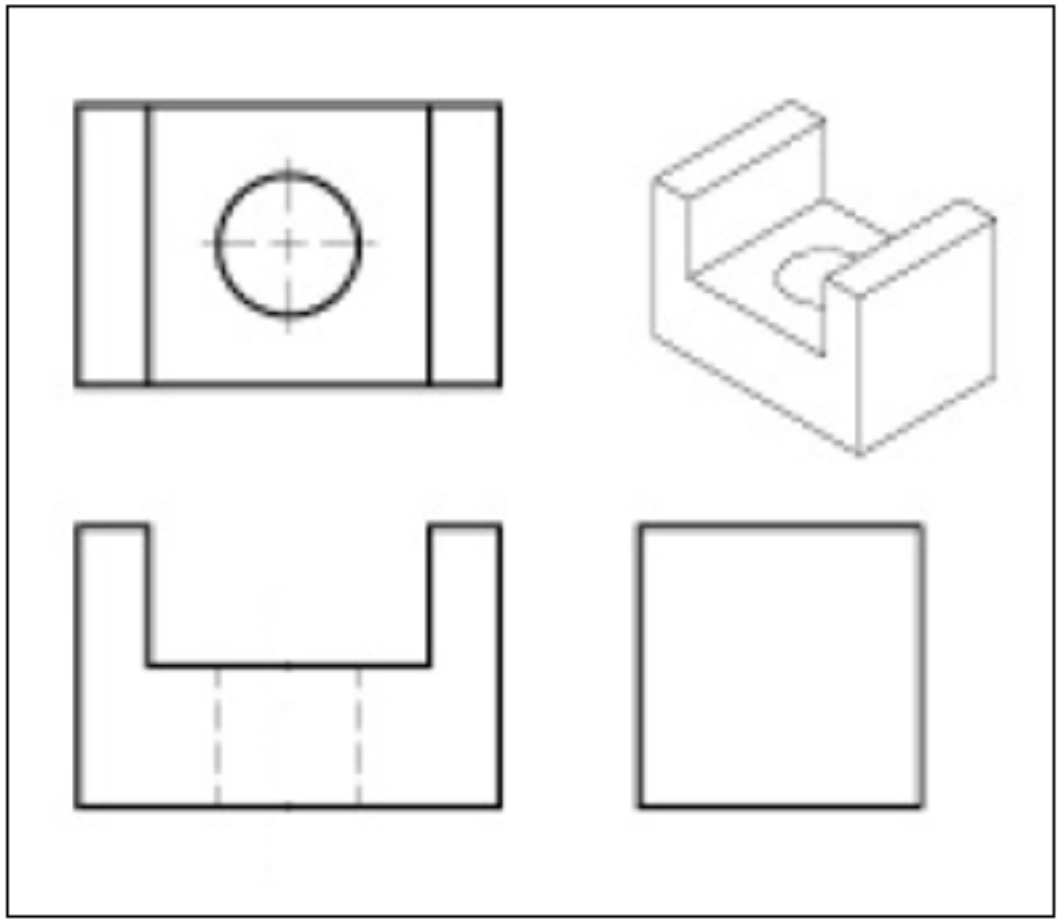


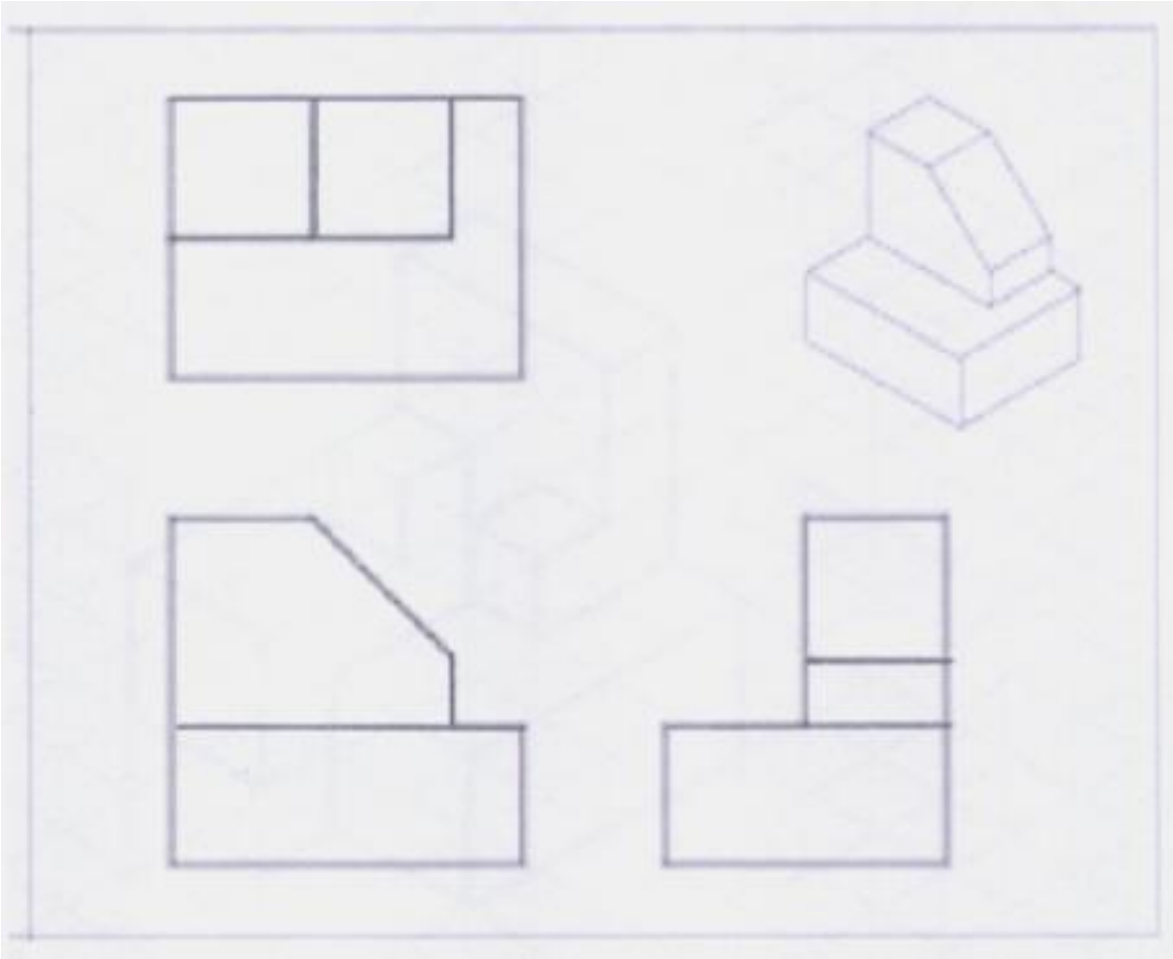

TOP
FRONT
RIGHT

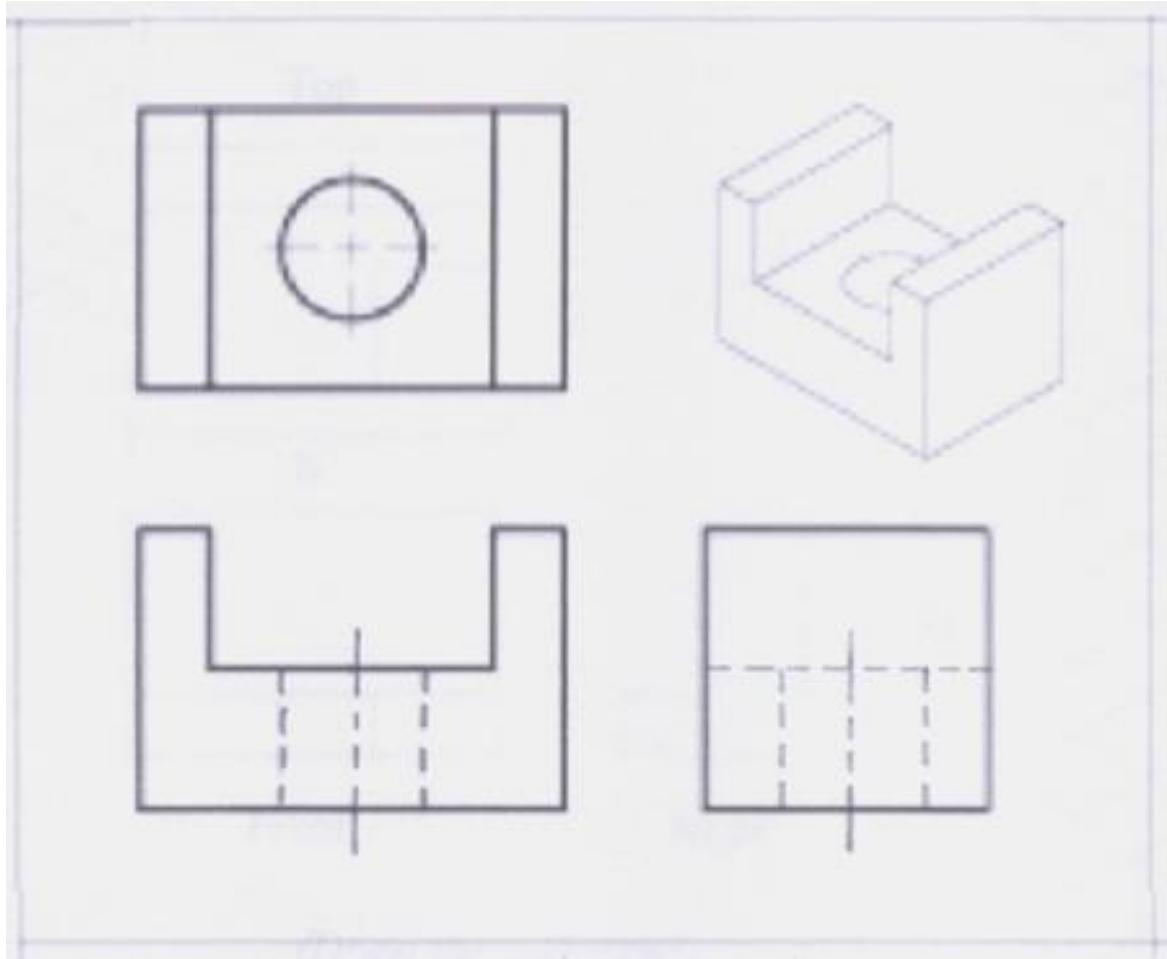

TOP
FRONT
RIGHT

3) Draw in any Object Lines or Hidden Lines that may be missing from each view:





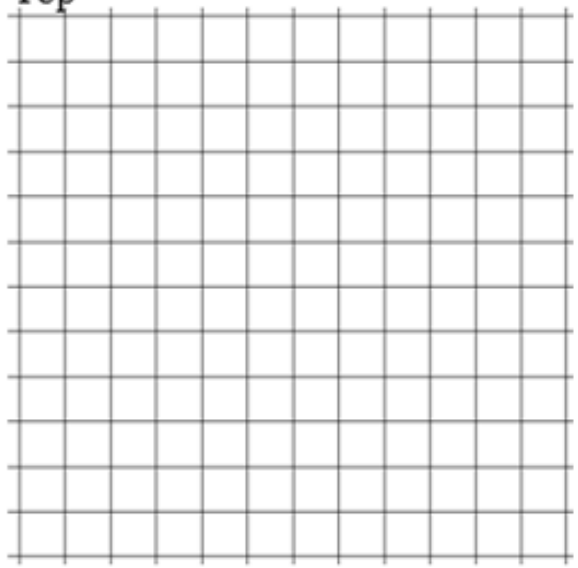


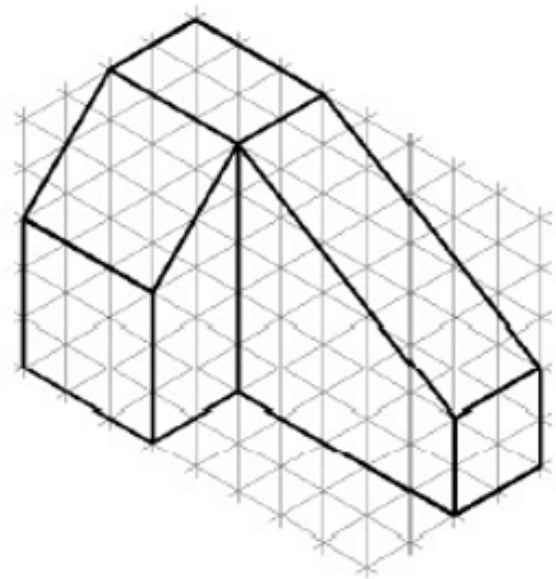


4) Draw the Top, Front, and Right sides views of the following. (use a 1:1 scale)

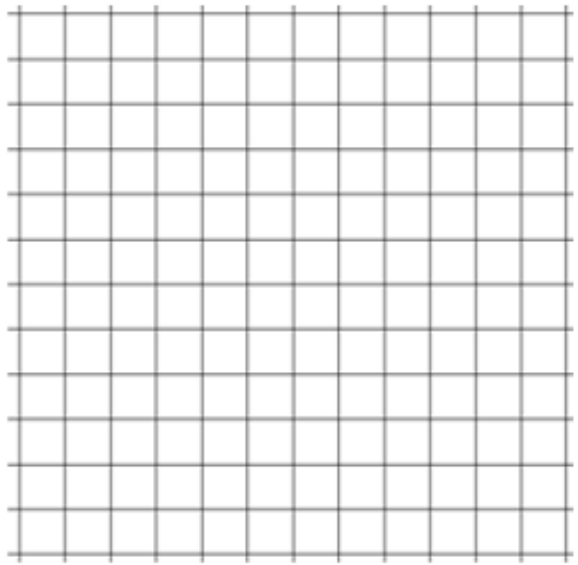
a)

Top

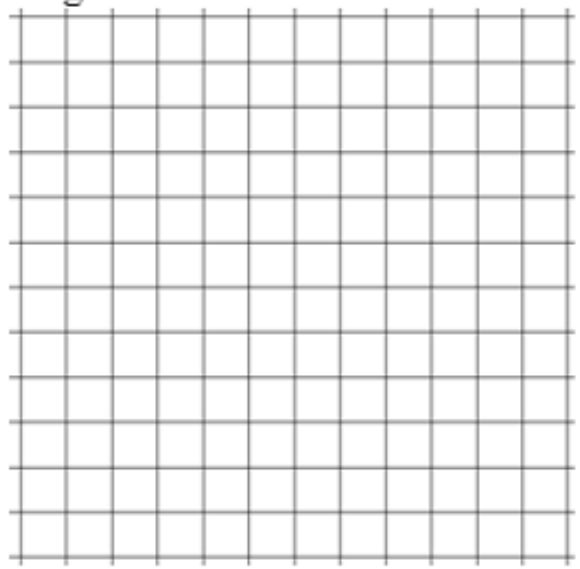




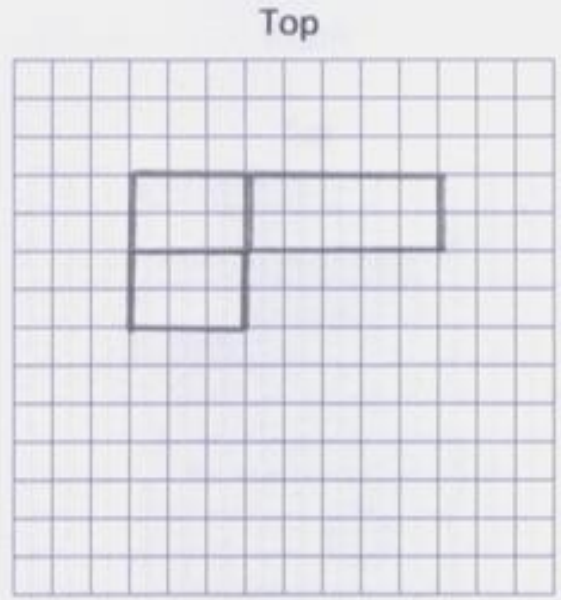
Front

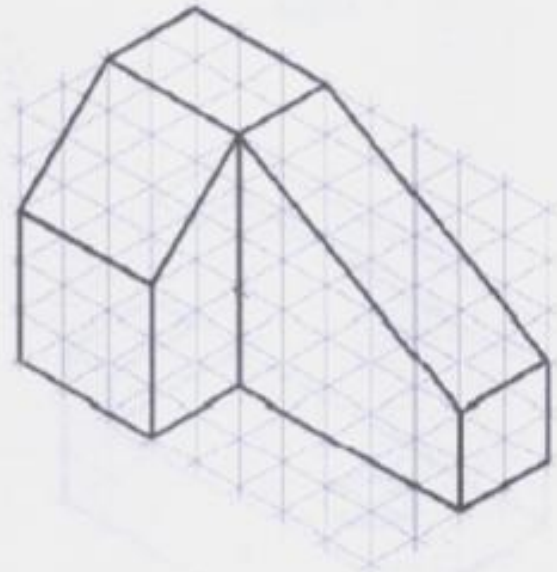


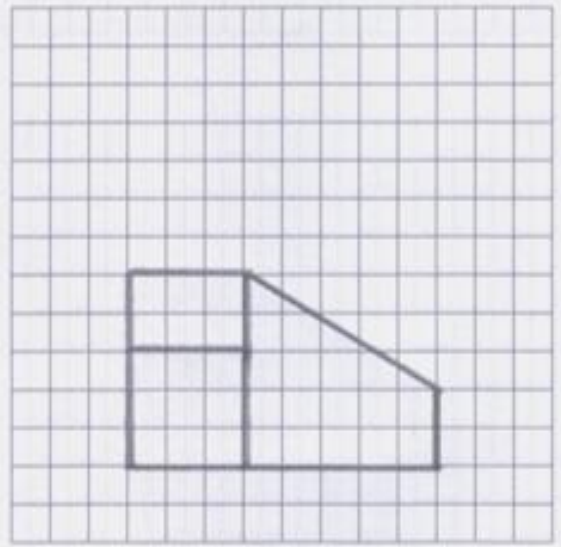
Right

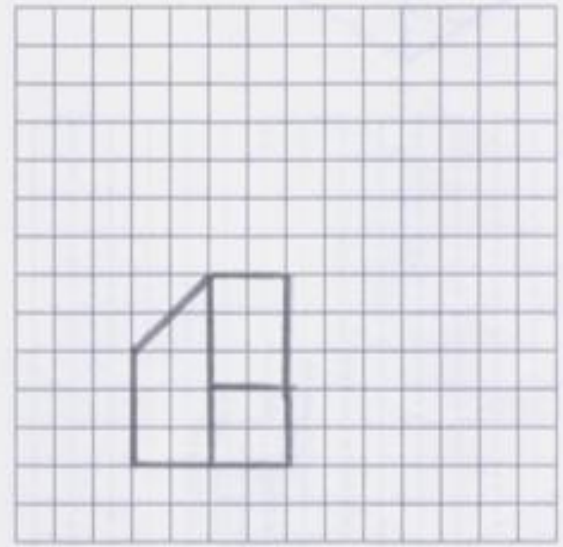


a)



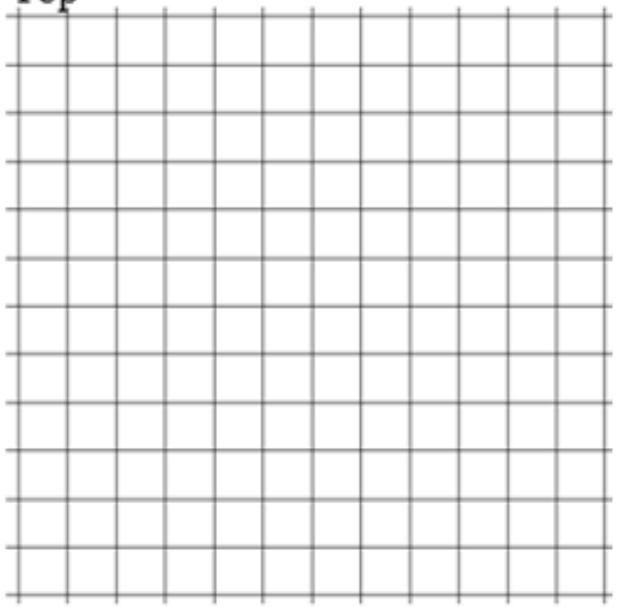


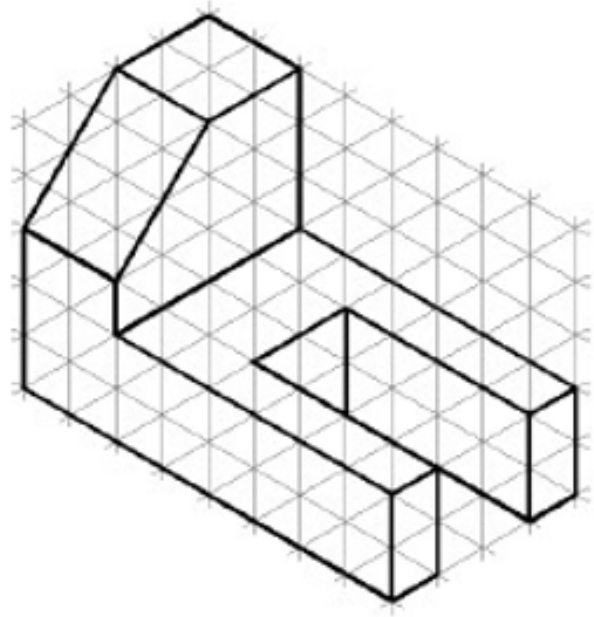




b)

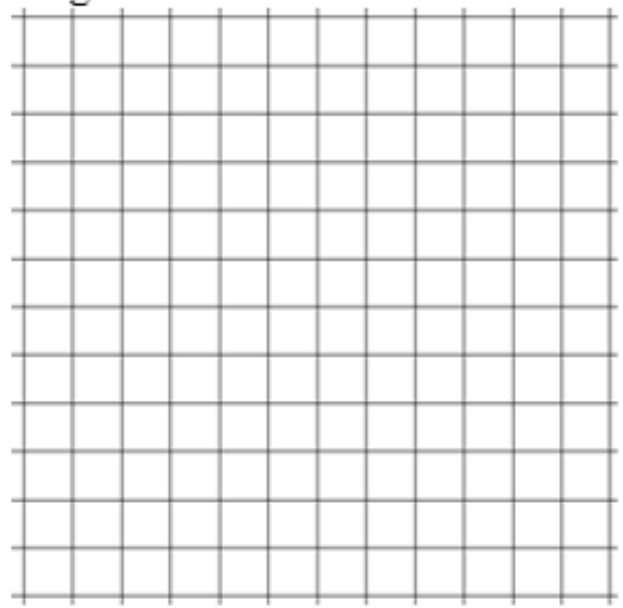
Top





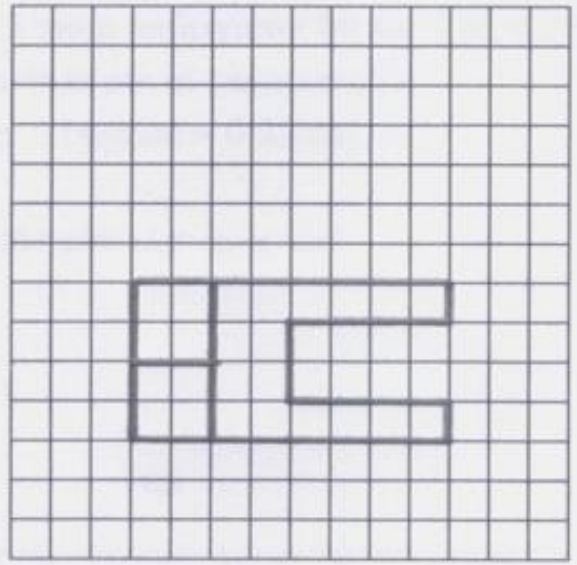
Front

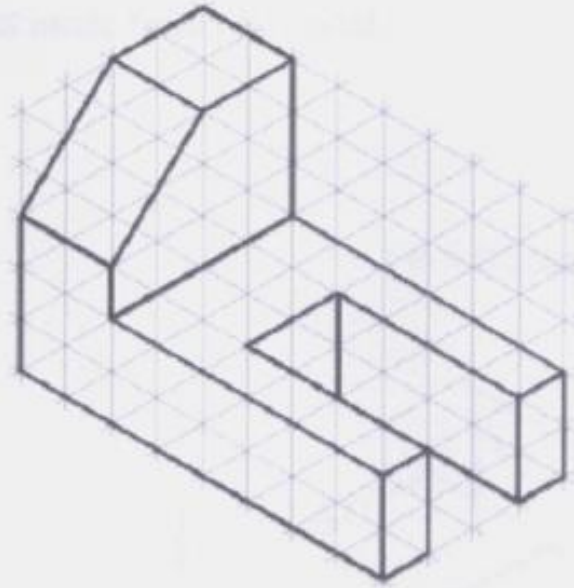
Right

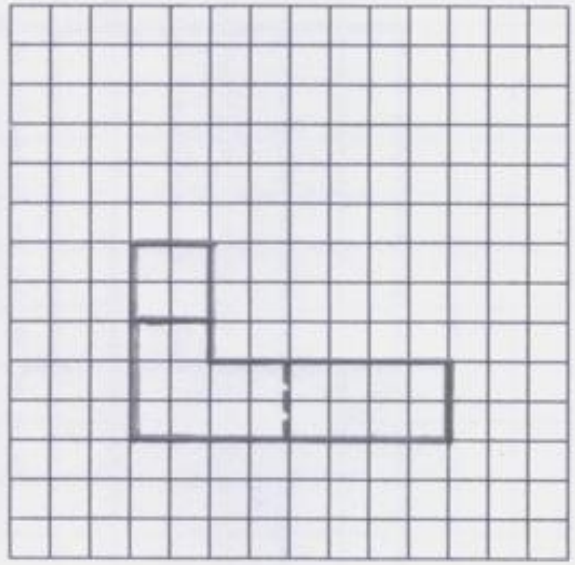


b)

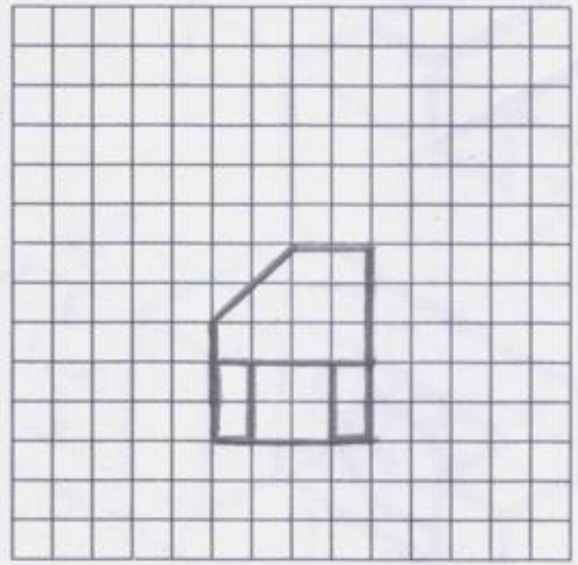
Top







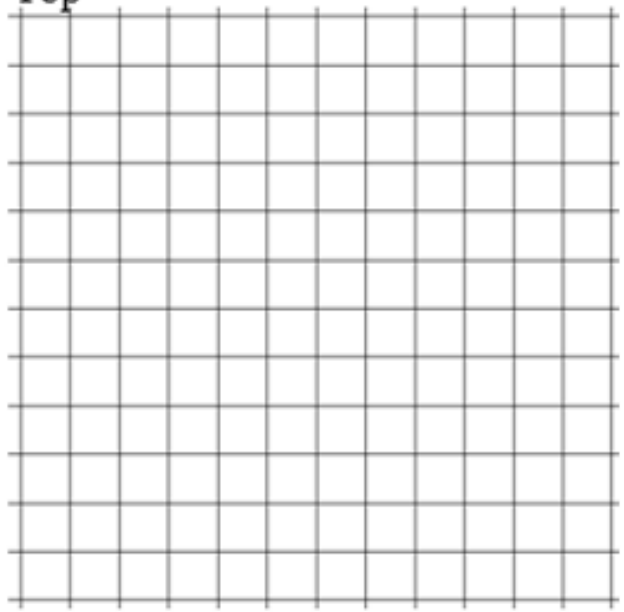
Front

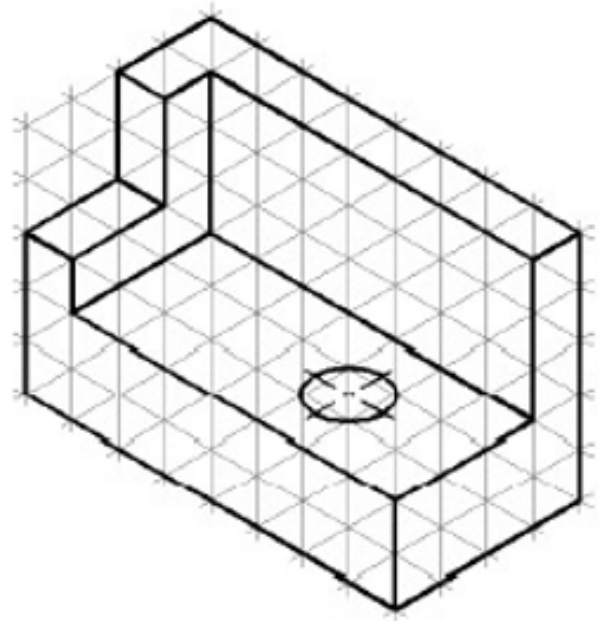


Right

c)

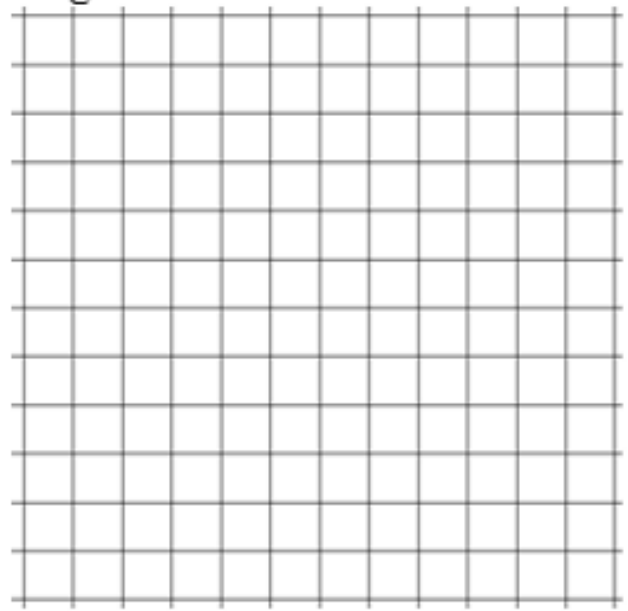
Top





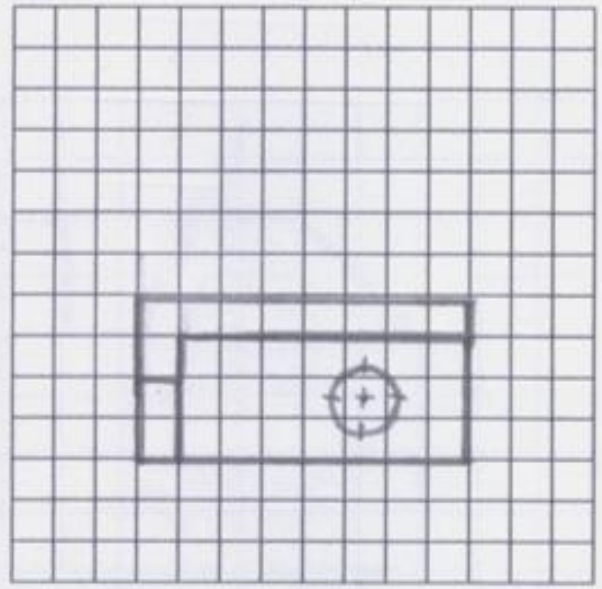
Front

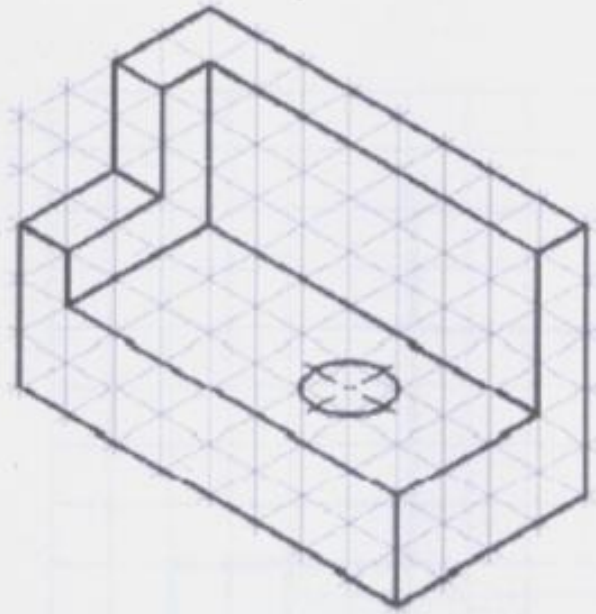
Right

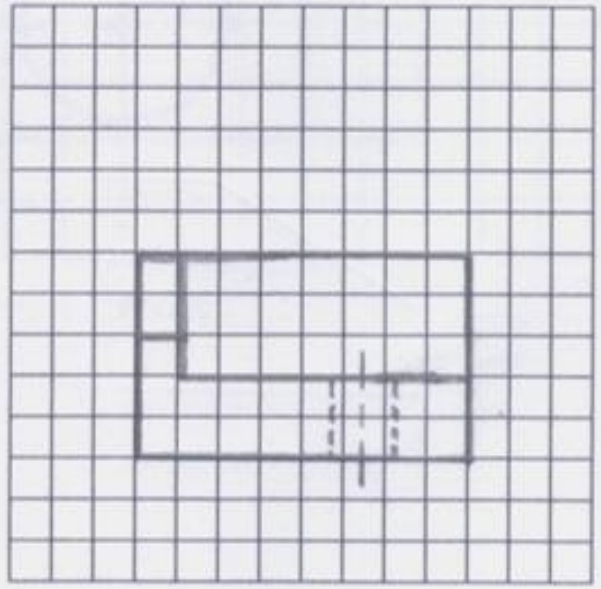


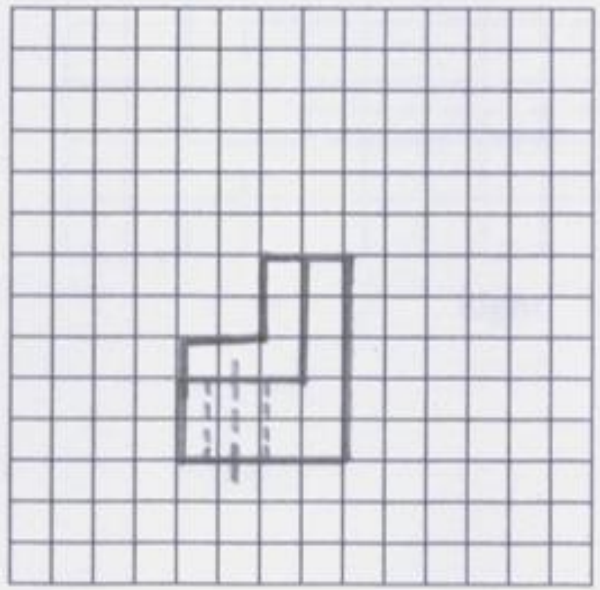
c)

Top





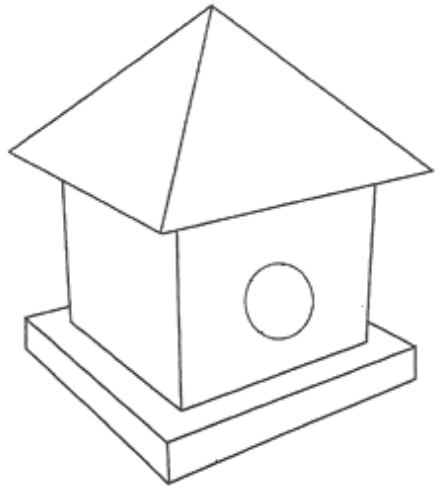




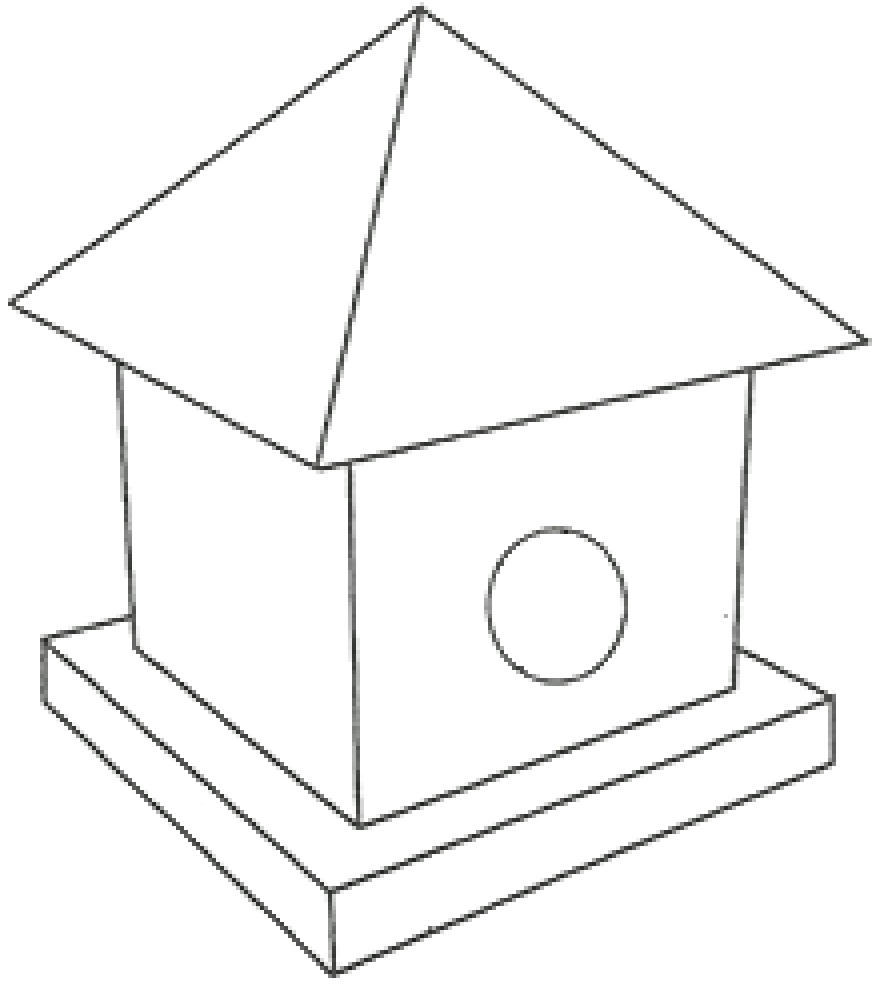
5) *Activity:* Draw a multiview projection of the bird house based on the provided design specifications

Your neighbour, an avid bird watcher, has asked you to build a bird house. Below, you have his sketch and a table of design specifications.

The bird house is made of three components: the base, the bird house walls and the roof of the house. The dimensions of the bird house are 16 cm × 16 cm × 20 cm.

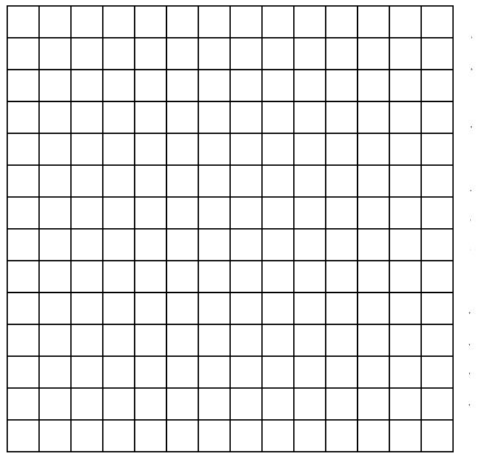


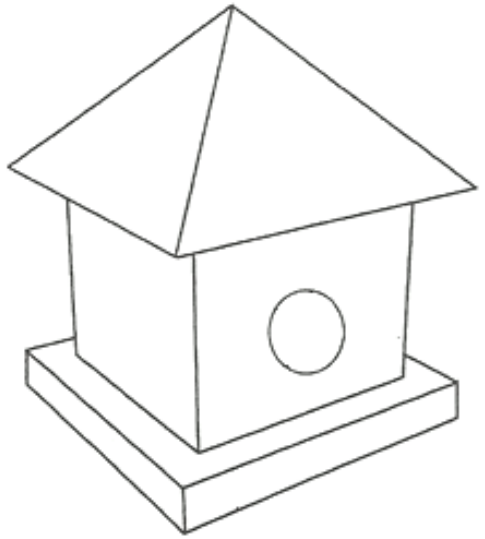
Component	Design Specifications
Base	Square base Height: 2 cm Length: 16 cm
Bird house walls	Centered on base Width and length: 12 cm A 4 cm diameter hole is located on front of the house 2 cm from the base and 4 cm from each side
Roof of the bird house	Rectangular pyramid Height: 8 cm Perfectly fits over the base



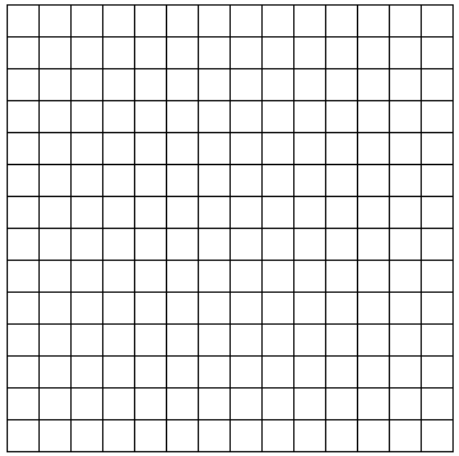
Activity: Draw a multiview projection of the bird house based on the provided design specifications

Top View

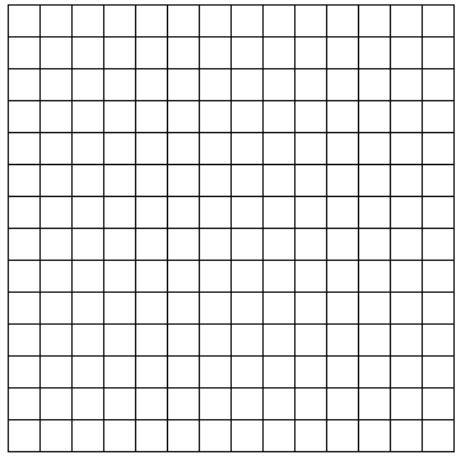




Front View



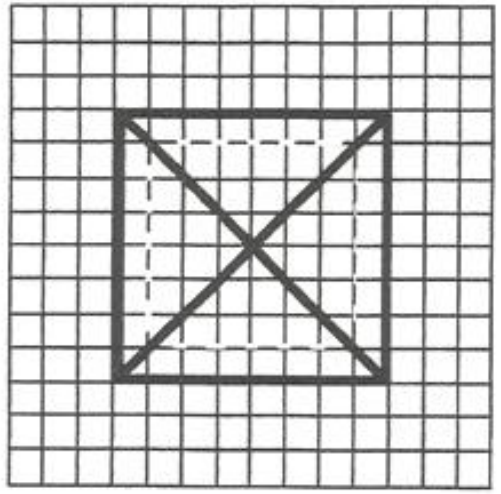
Side View

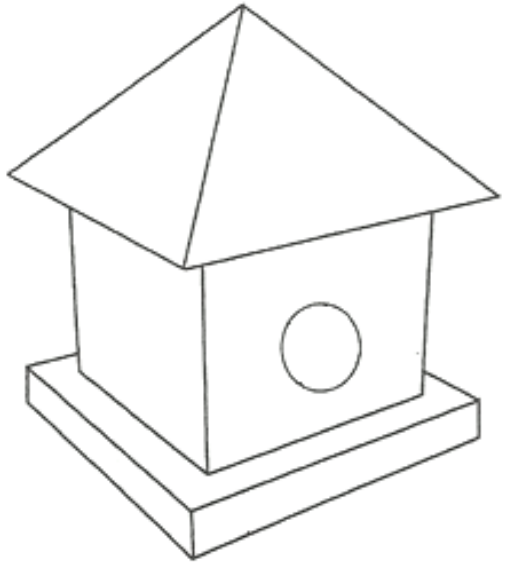


Activity: Draw a multiview projection of the bird house based on the provided design specifications

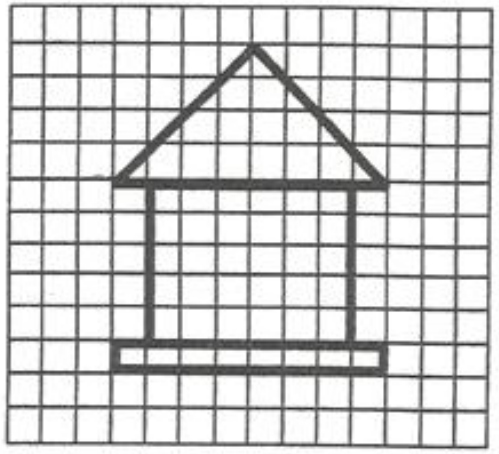
Example of an appropriate procedure

Top View

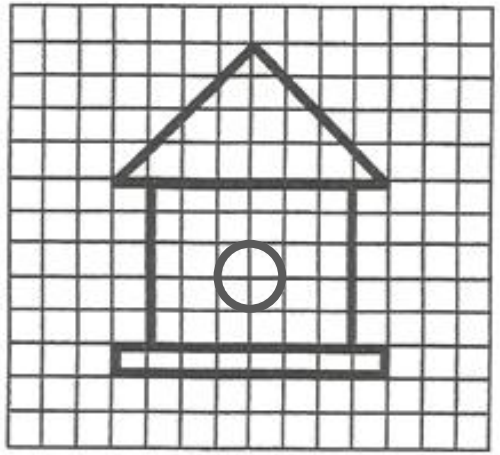




Front View



Side View



6) *Activity:* Draw a multiview projection of the cafeteria based on the provided design specifications

In redesigning a camp, the manager wishes to rebuild the cafeteria building.

Figure 5 represents an illustration of the cafeteria building he wishes to build.

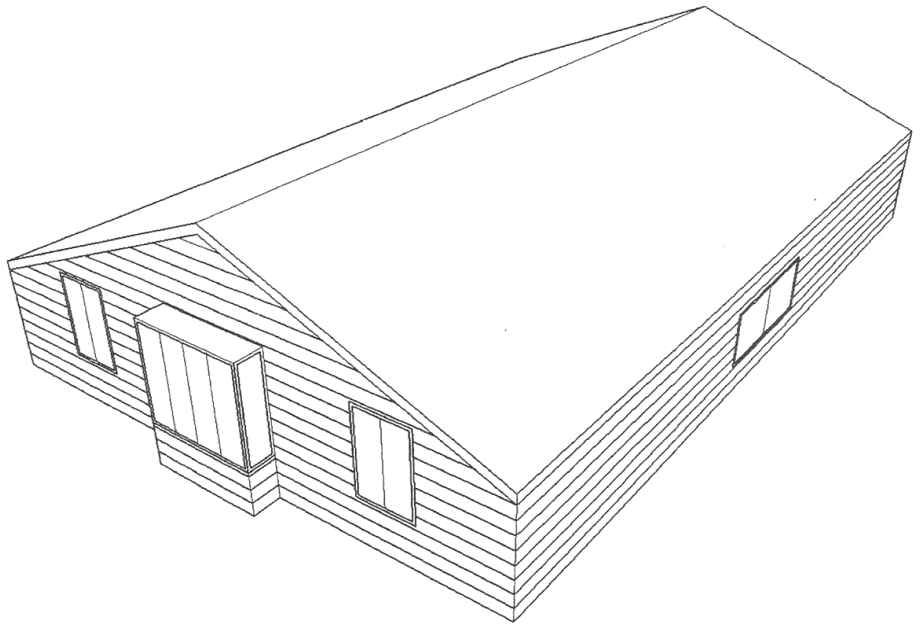
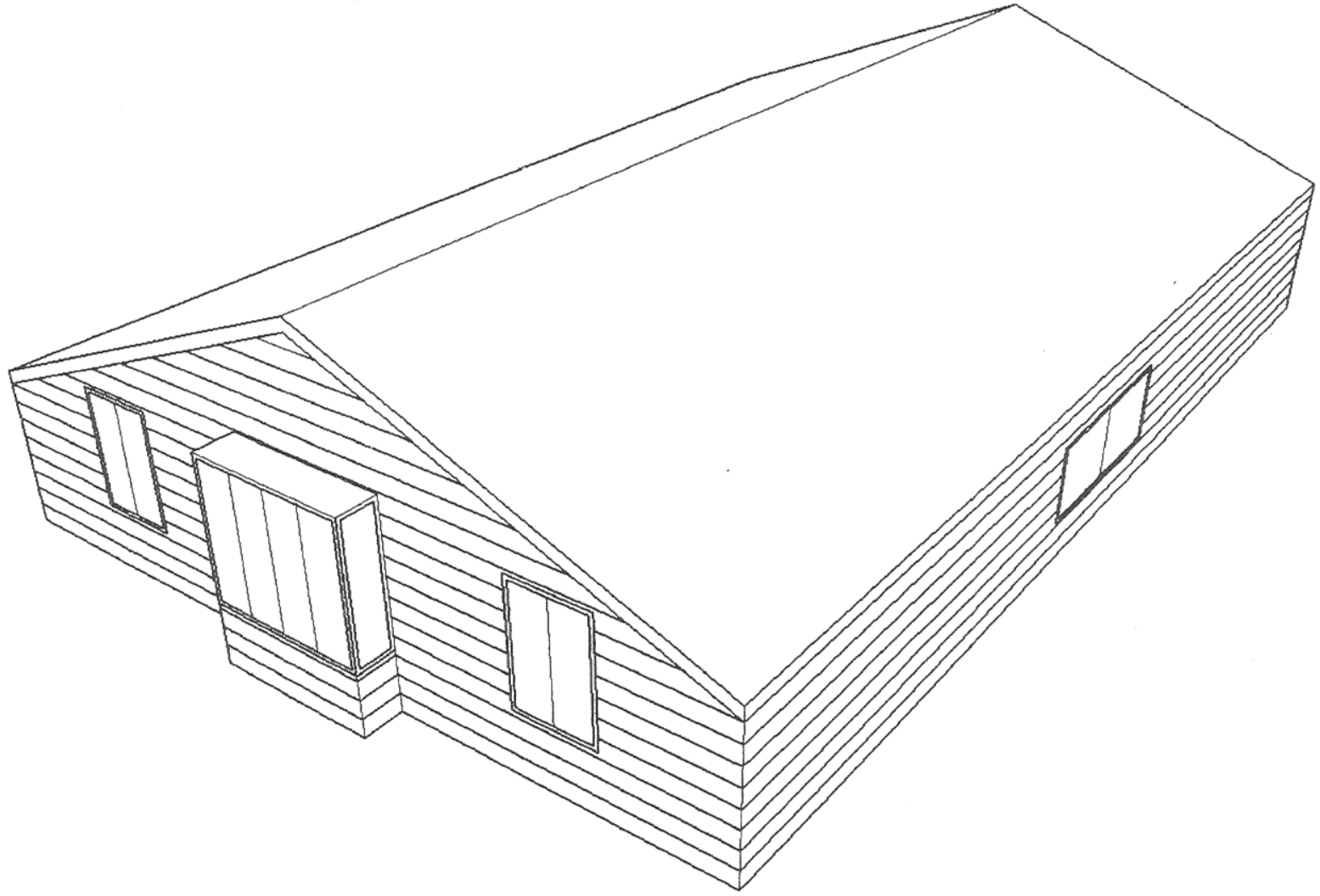


Figure 5 : Cafeteria Building

- He has asked you to make a simple blueprint showing **three views** of the building that he can send to the architect.
- The cafeteria should be 20 meters wide by 30 meters in length, have a maximum height of 8 meters in the center and a height of 4 meters at the edges.
- At one end of the cafeteria is a Bay window that is 4 m wide and 5 m tall. It extends out 1 m from the cafeteria building.

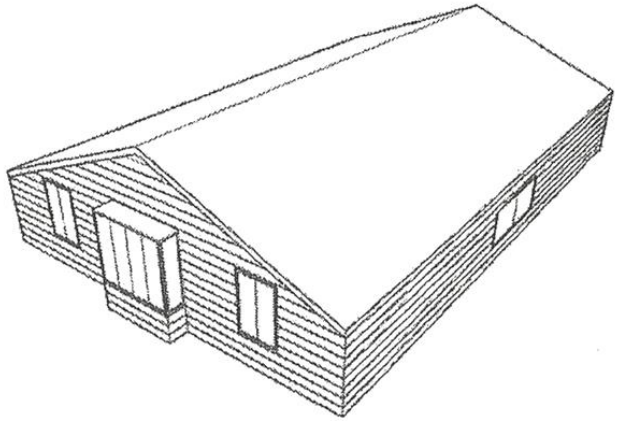
Use the grid paper in your *Answer Booklet* to draw the three views of the multiview orthogonal projection of the cafeteria building.



Activity: Draw a multiview projection of the cafeteria based on the provided design specifications

SCALE : **1 square = 2m x 2m**

Isometric View



View 3 **Top View**

View 1 **Front View**

View 2 **Right View**

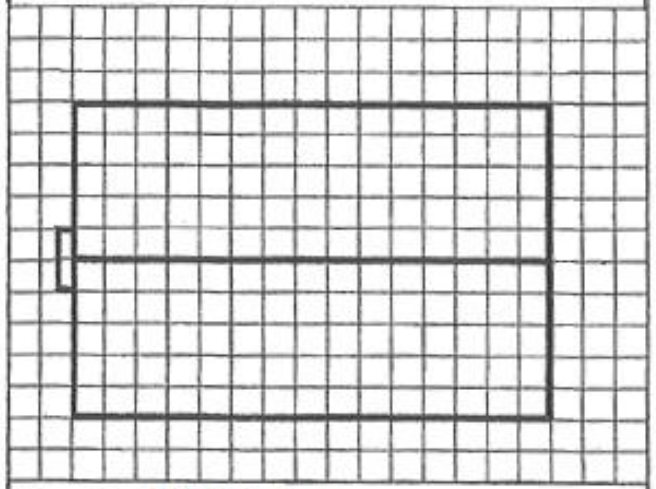
Activity: Draw a multiview projection of the cafeteria based on the provided design specifications

Example of an appropriate procedure

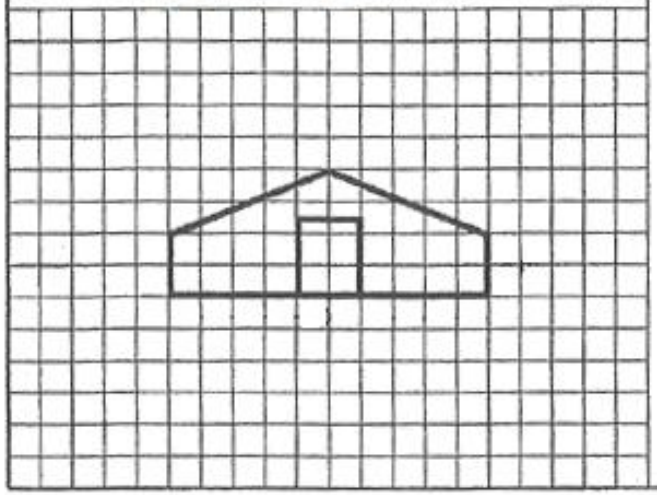
SCALE : 1 square = 2 m

Isometric View

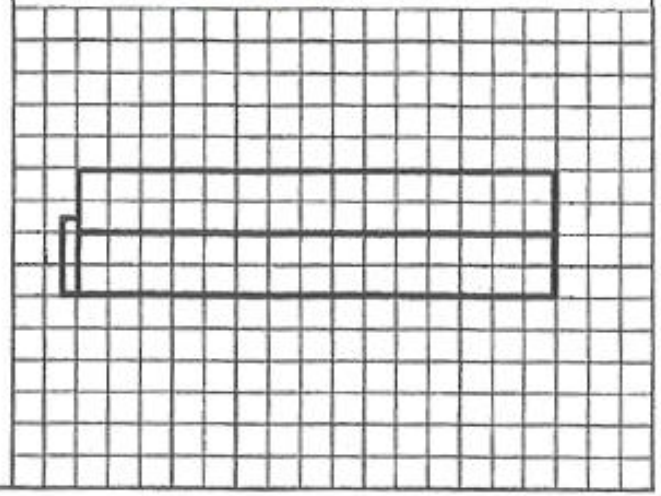
View 3: **Top view**



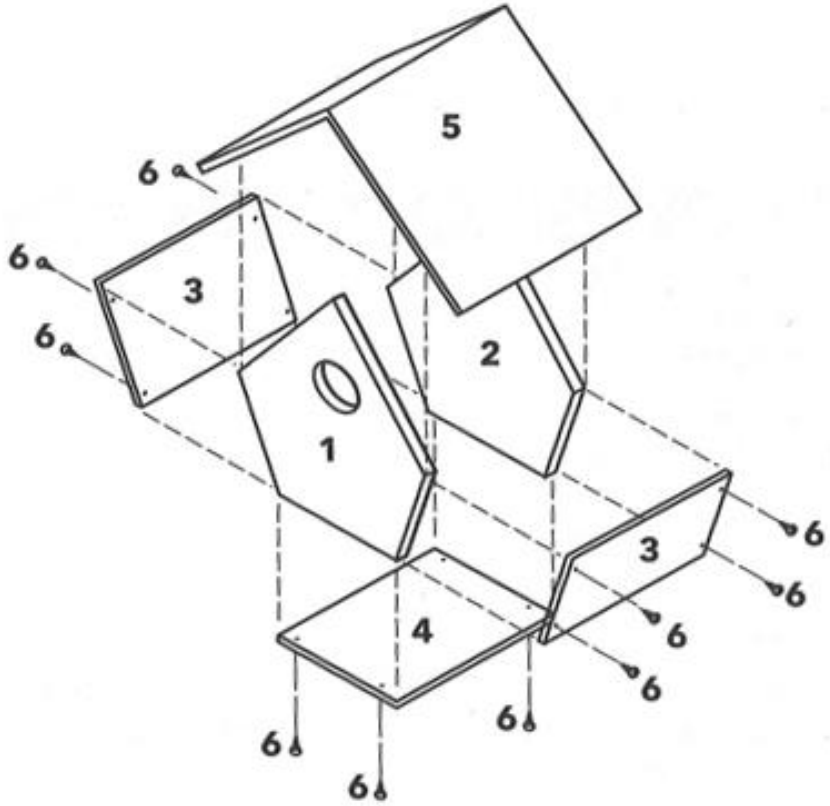
View 1: **Front view**

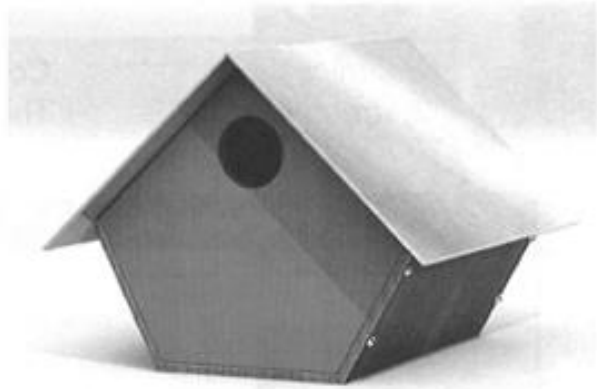


View 2: **Right view**



7) a) The photo below shows a birdhouse for swallows. It is made mainly out of wood and aluminum. Consider the accompanying drawing and list of parts for the birdhouse. Then answer the questions that follow.





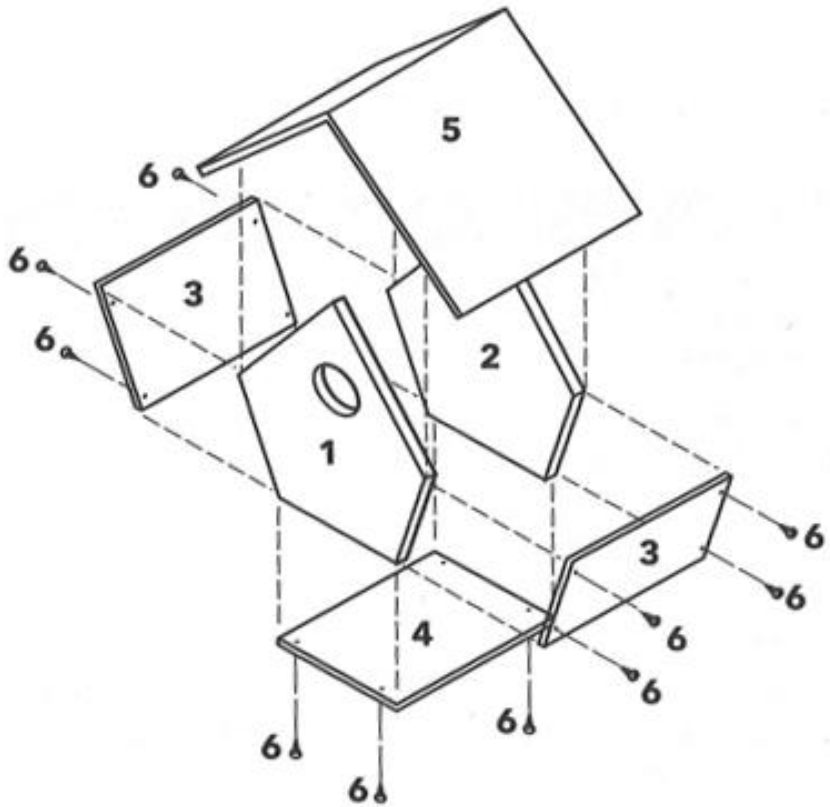
Part	Number	Name
1	1	Front
2	1	Back
3	2	Side
4	1	Base
5	1	Roof
6	12	Screw

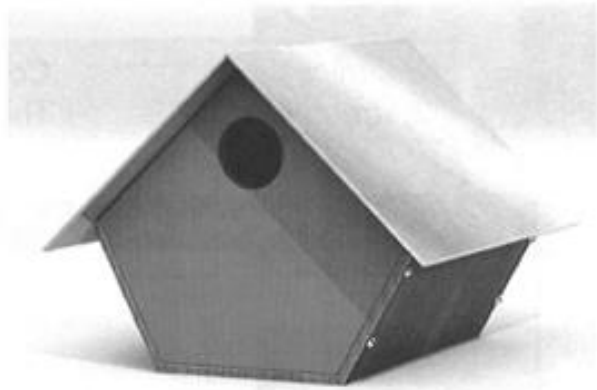
a) What type of drawing is it? _____

b) How many different parts are there in the birdhouse? _____

c) Which part is used to assemble all the other parts? _____

7) a) The photo below shows a birdhouse for swallows. It is made mainly out of wood and aluminum. Consider the accompanying drawing and list of parts for the birdhouse. Then answer the questions that follow.





Part	Number	Name
1	1	Front
2	1	Back
3	2	Side
4	1	Base
5	1	Roof
6	12	Screw

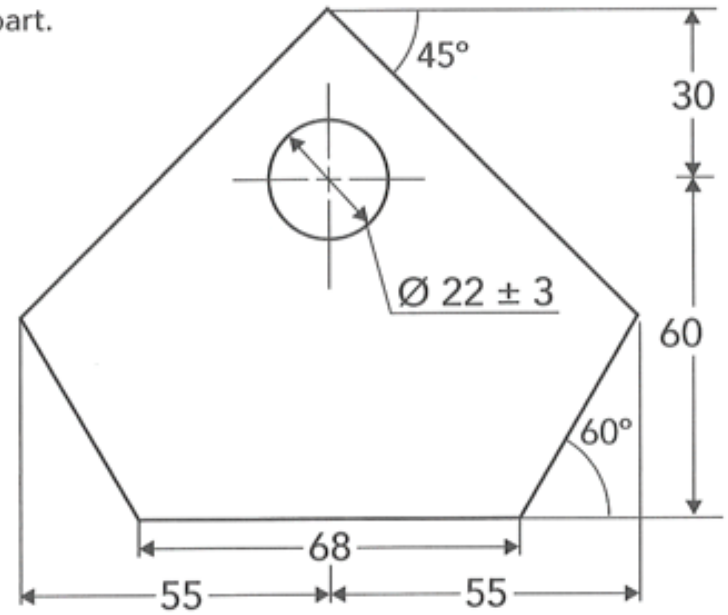
a) What type of drawing is it? Exploded View

b) How many different parts are there in the birdhouse? There are Six parts

c) Which part is used to assemble all the other parts? Part #6 (screws)

7) b) The technical drawing below shows one part of the birdhouse from the previous question. Answer the following questions about this part.

(all dimensions are in millimeters)



a) Which part is it?

_____

b) What type of drawing is it?

_____

c) What information does the drawing provide?

_____

_____

_____

d) What is the total width of the part? _____

e) What is the total height of the part? _____

f) At what angle to the horizontal will the slope of the birdhouse roof be? _____

g) What are the minimum and maximum dimensions of the birdhouse entrance hole?

_____

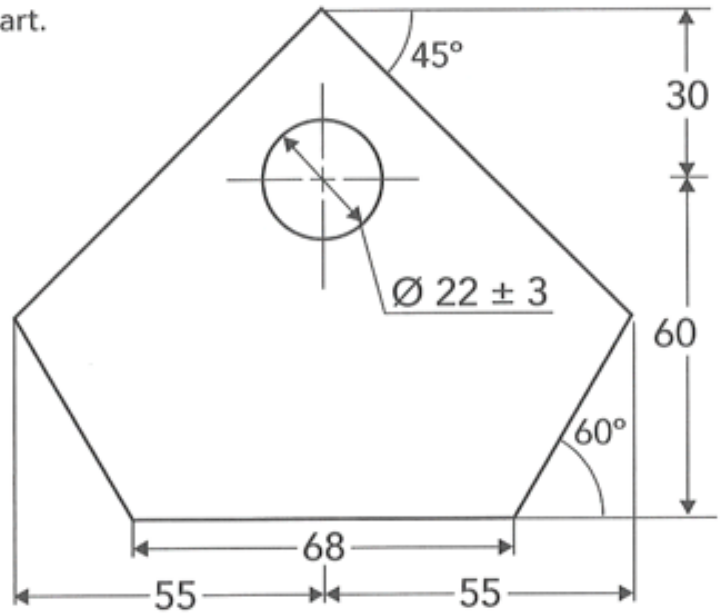
h) Name two techniques involved in shaping this part, which is made of wood.

_____

**Observatory 4, Activity Book, ERPI, 2018*

7) b) The technical drawing below shows one part of the birdhouse from the previous question. Answer the following questions about this part.

(all dimensions are in millimeters)



a) Which part is it?
Front

b) What type of drawing is it?
Detailed Drawing

c) What information does the drawing provide?
It provides all the relevant Information for manufacturing the part

d) What is the total width of the part?
110 mm

e) What is the total height of the part?
90 mm

f) At what angle to the horizontal will the slope of the birdhouse roof be?
45°

g) What are the minimum and maximum dimensions of the birdhouse entrance hole?
19 mm and 25 mm

h) Name two techniques involved in shaping this part, which is made of wood.
Sawing & Drilling

**Observatory 4, Activity Book, ERPI, 2018*

8) Draw the 3 main views for the following object:

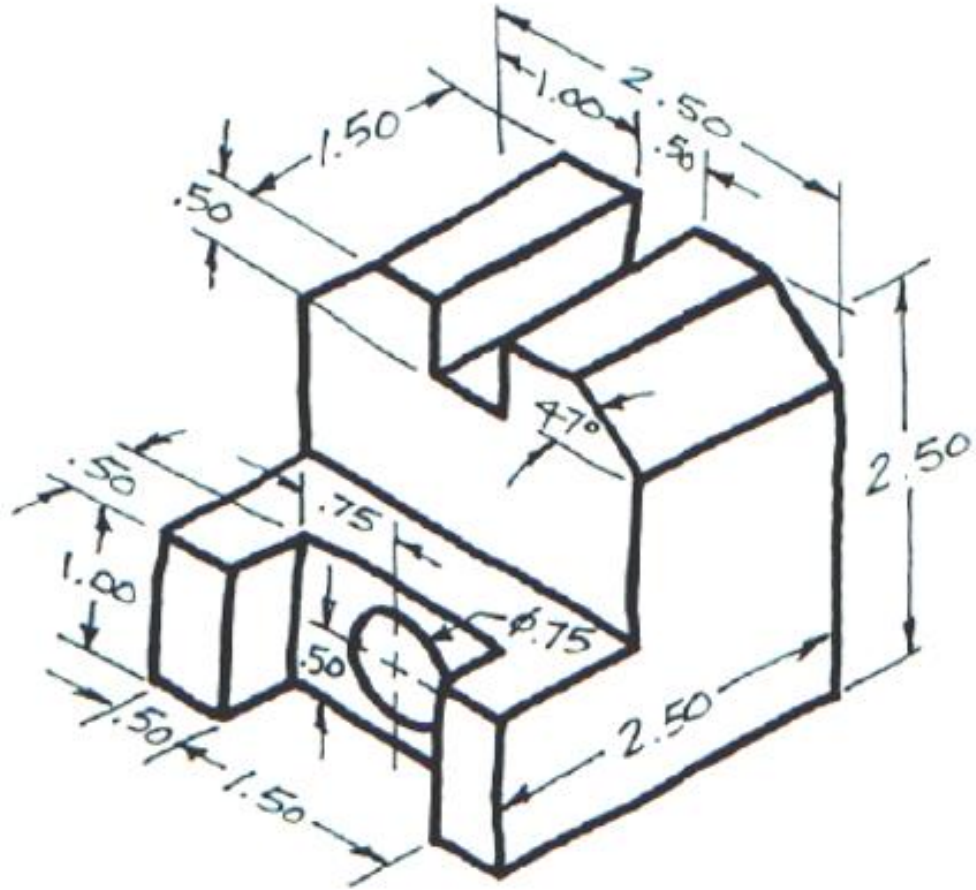
OPTIONAL HARD QUESTION:

(all dimensions are in centimeters)

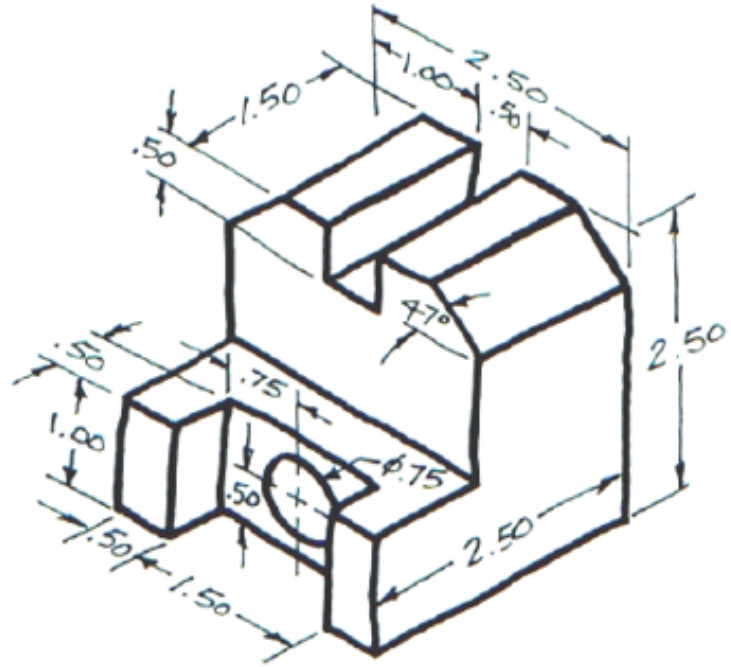
(use scale: 1square = 0.25cm)

(Ø = Diameter)

Hint: Do the circular hole last



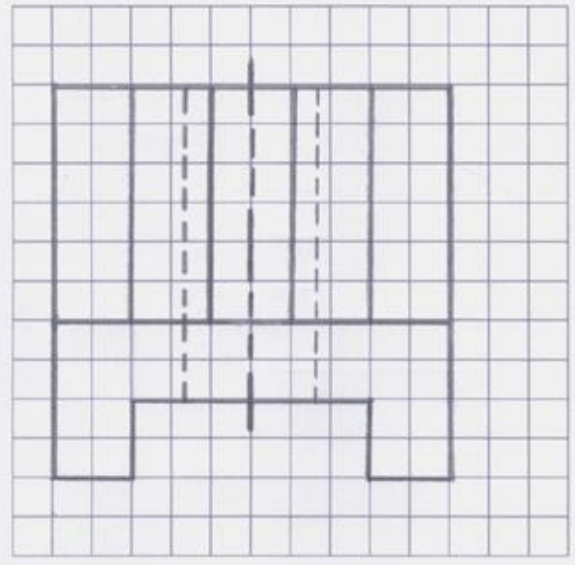
Top

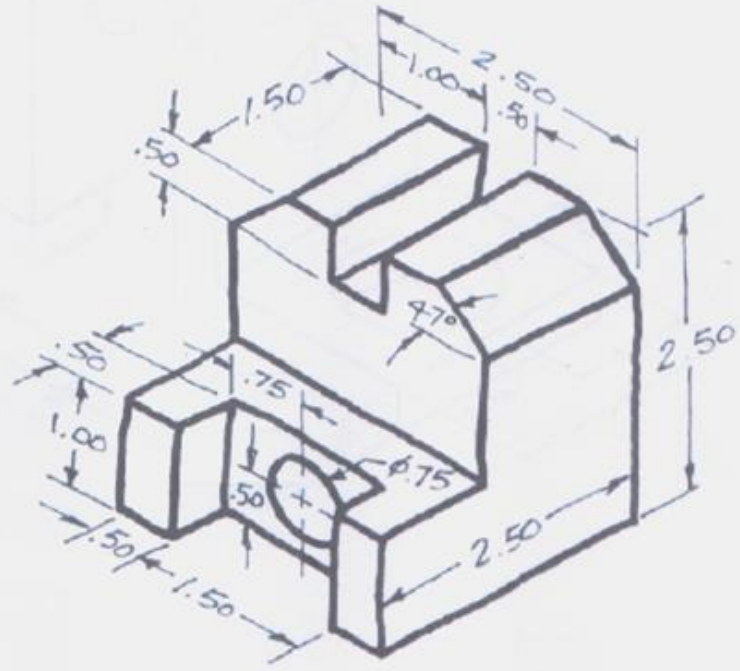


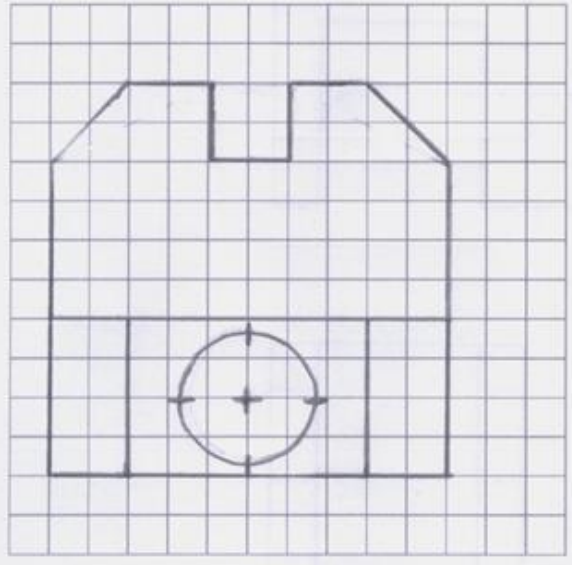
Front

Right

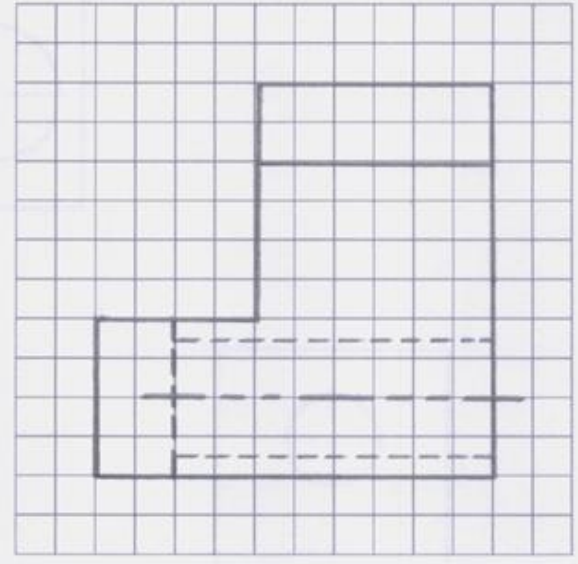
Top







Front



Right