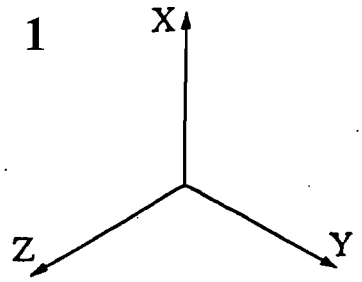
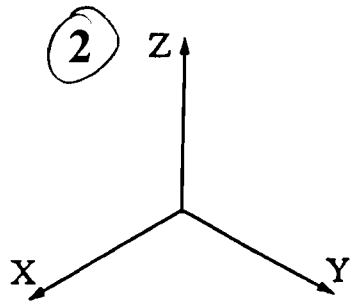
3-D Coordinate Systems

Circle the Right-handed coordinate system below:

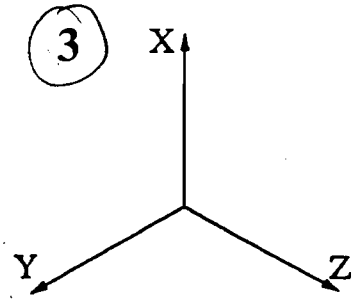
1



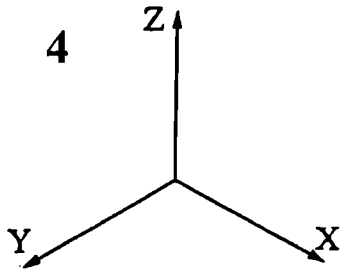
2



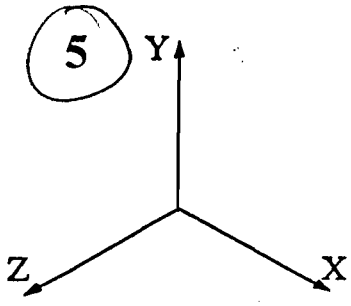
3



4

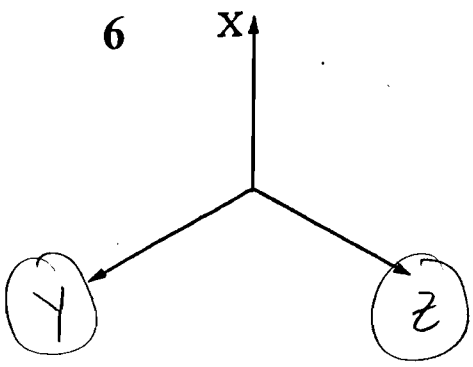


5

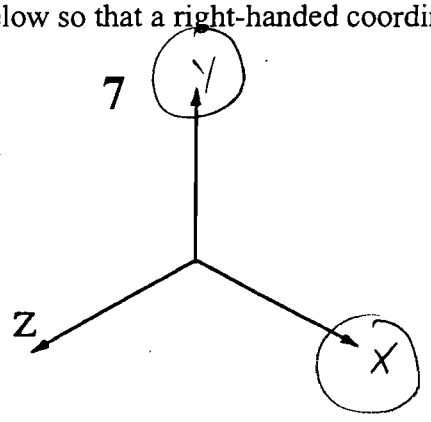


Add labels to the missing axes below so that a right-handed coordinate system results:

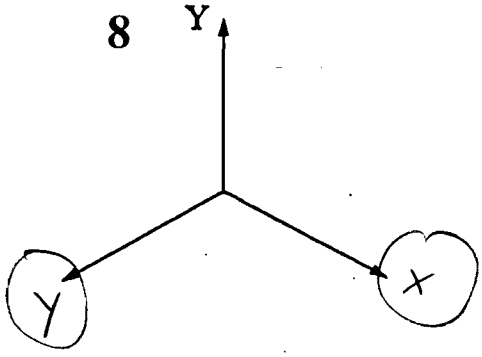
6



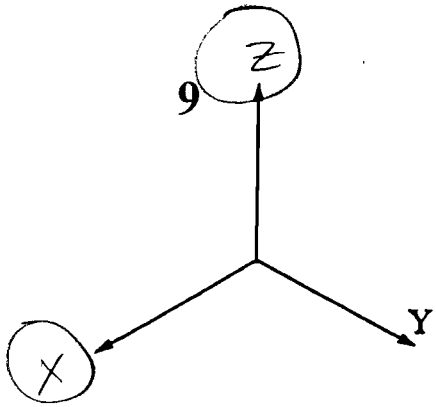
7



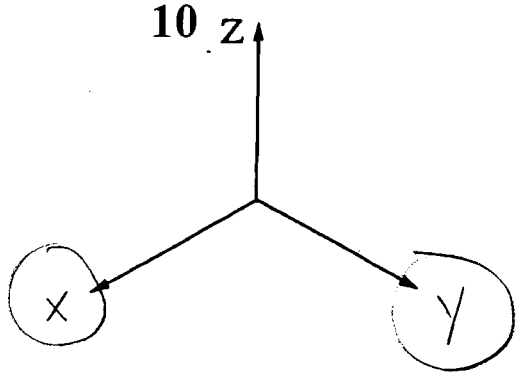
8



9

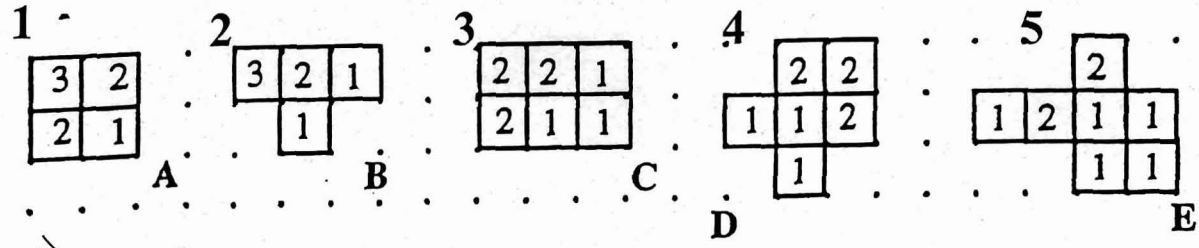


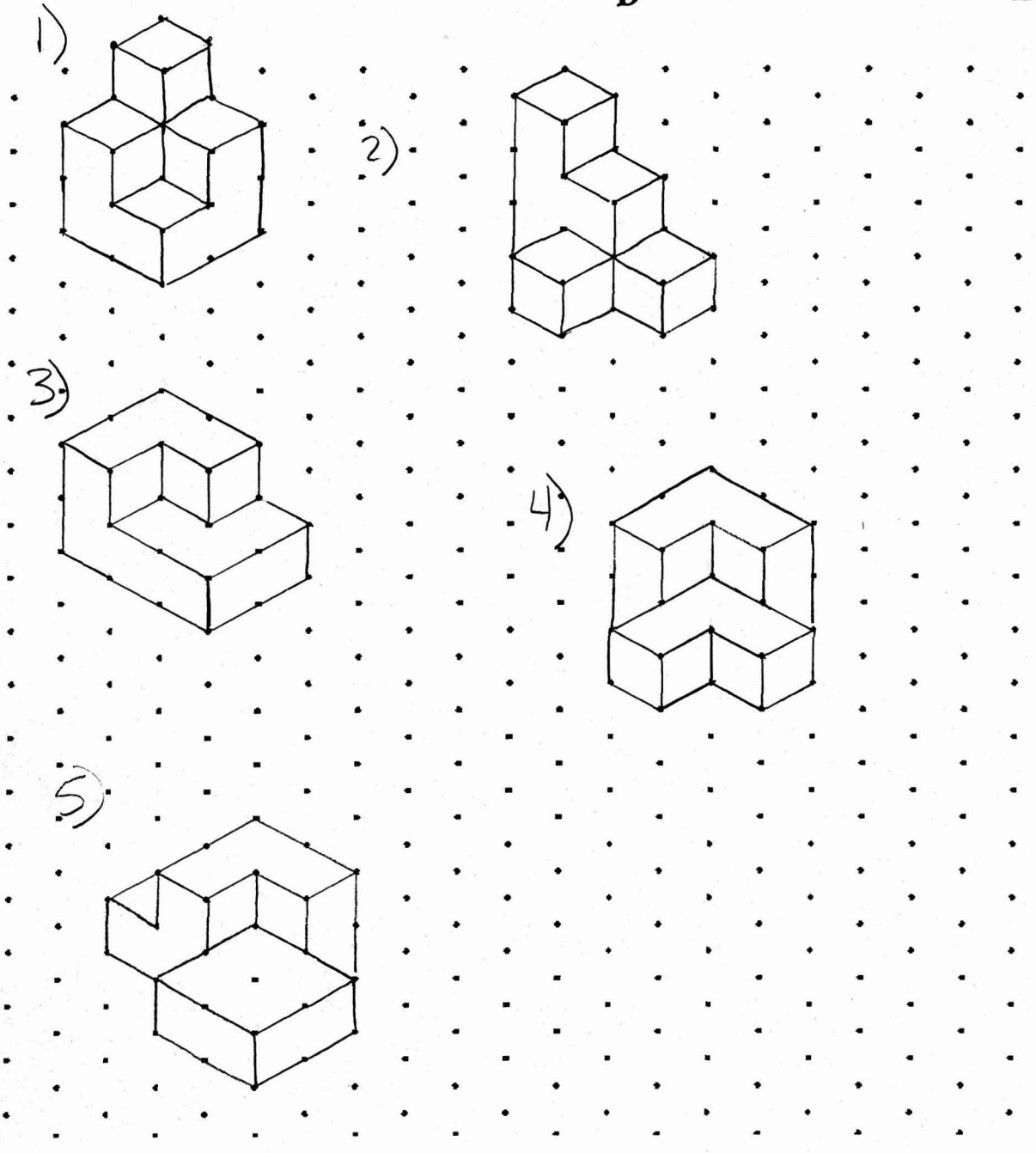
10



Isometric Sketching

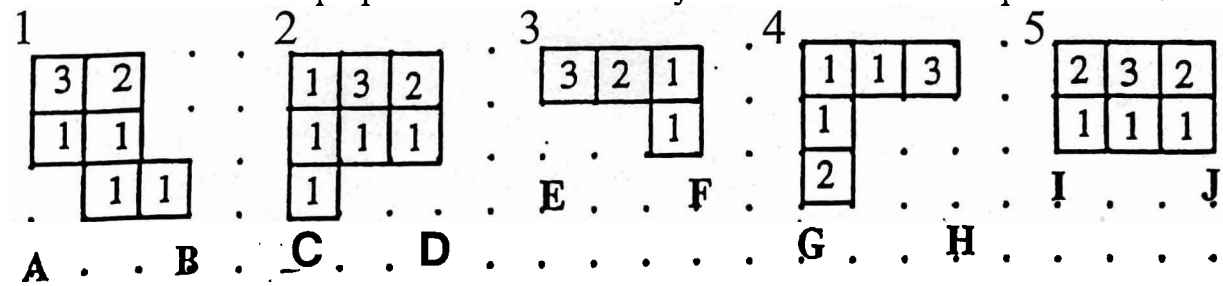
Sketch the indicated corner isometric views of the objects shown in the coded plans below:

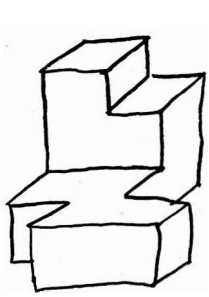


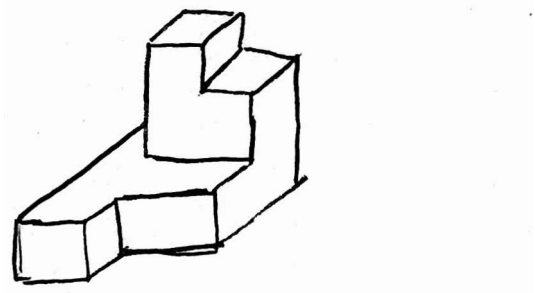


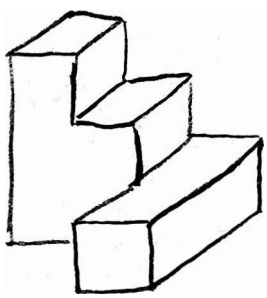
Oblique Sketching

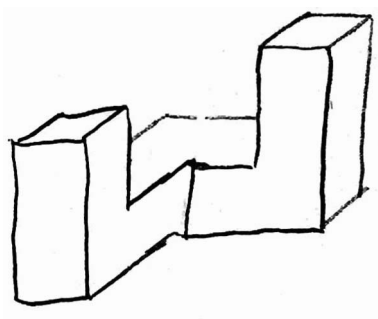
Sketch the indicated oblique pictorial views of the objects shown in the coded plans below:

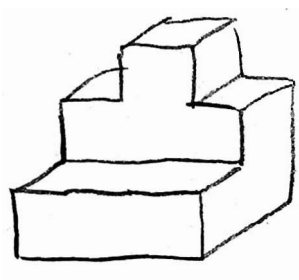








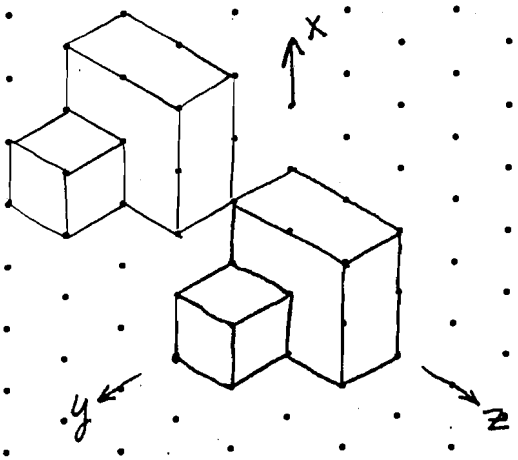




Translation

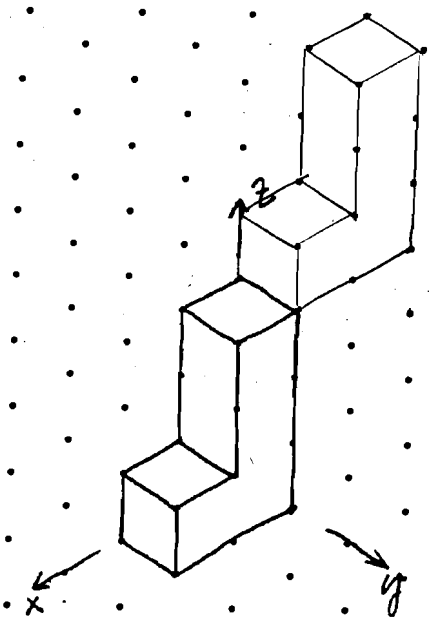
Translate the objects shown below by the indicated amount and sketch in their new locations.

1



(5,4,1)

2

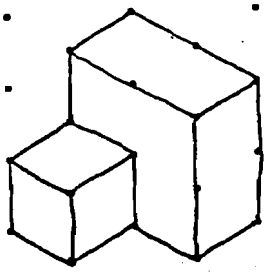


(-4,-2,1)

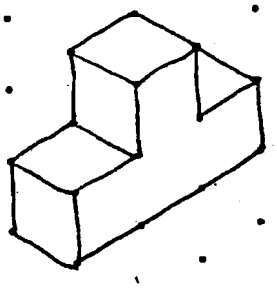
Dilation

Scale the objects shown below by a factor of two and sketch their images.

1



2



What is the volume(# of cubes) of each original object?

1) 5 cubes 2) 4 cubes

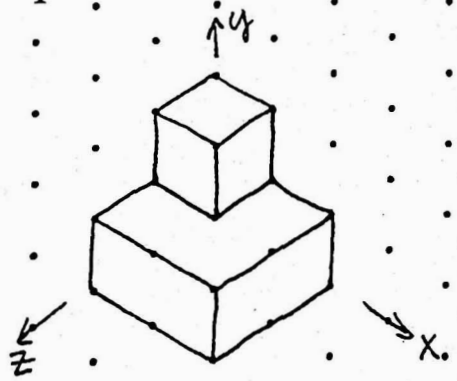
What is the volume(# of cubes) of the scaled objects?

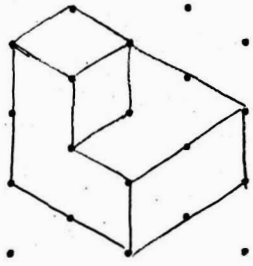
1) 40 cubes 2) 32 cubes

One Axis Rotation

Rotate the objects shown below by the indicated amount and sketch their image.

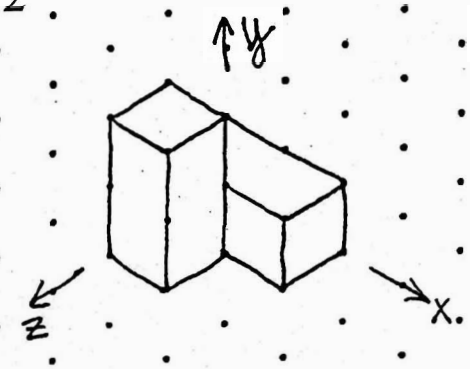
1

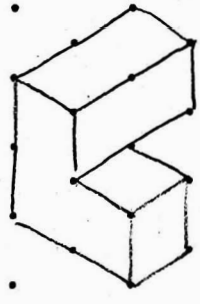




→ Y

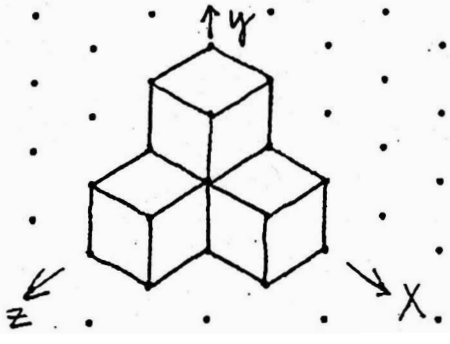
2

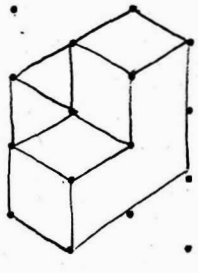




← X

3



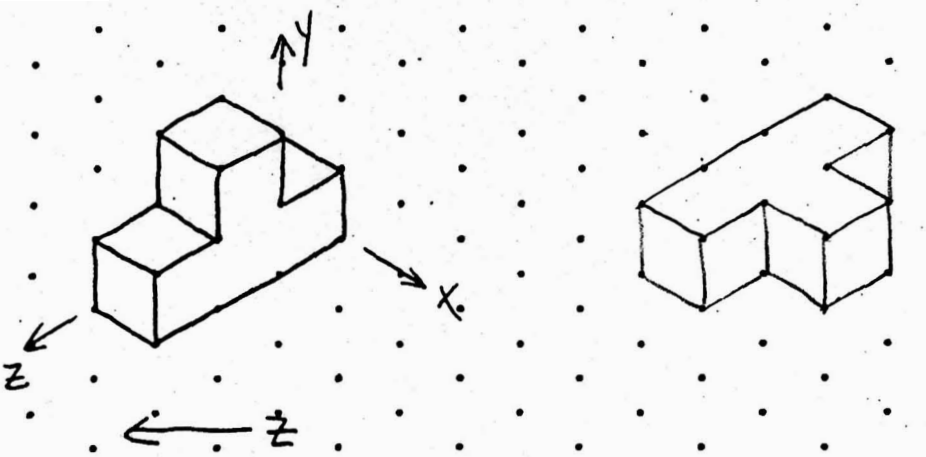


→ Z

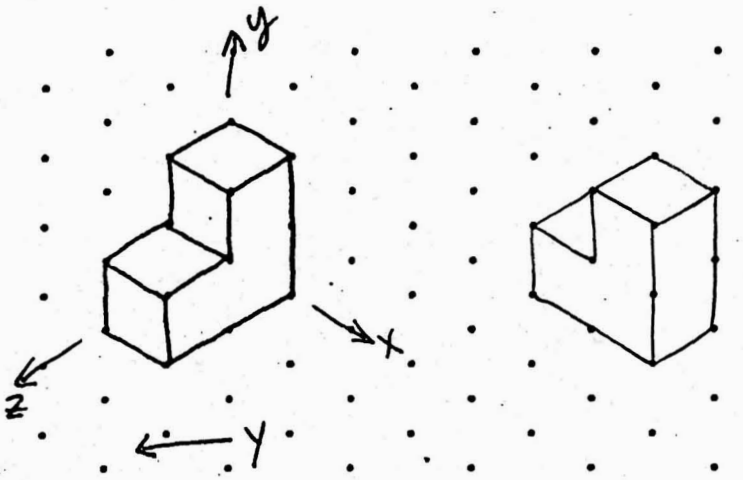
One Axis Rotation

Rotate the objects shown below by the indicated amount and sketch their image.

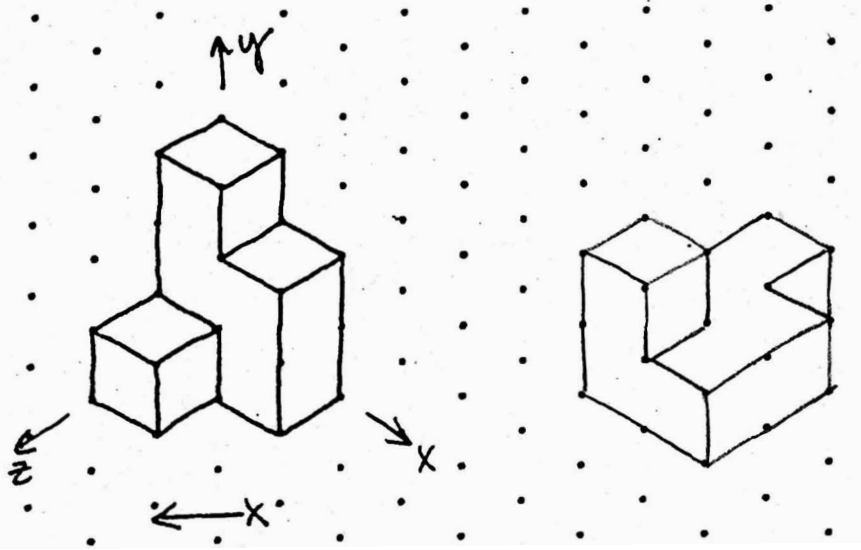
1



2



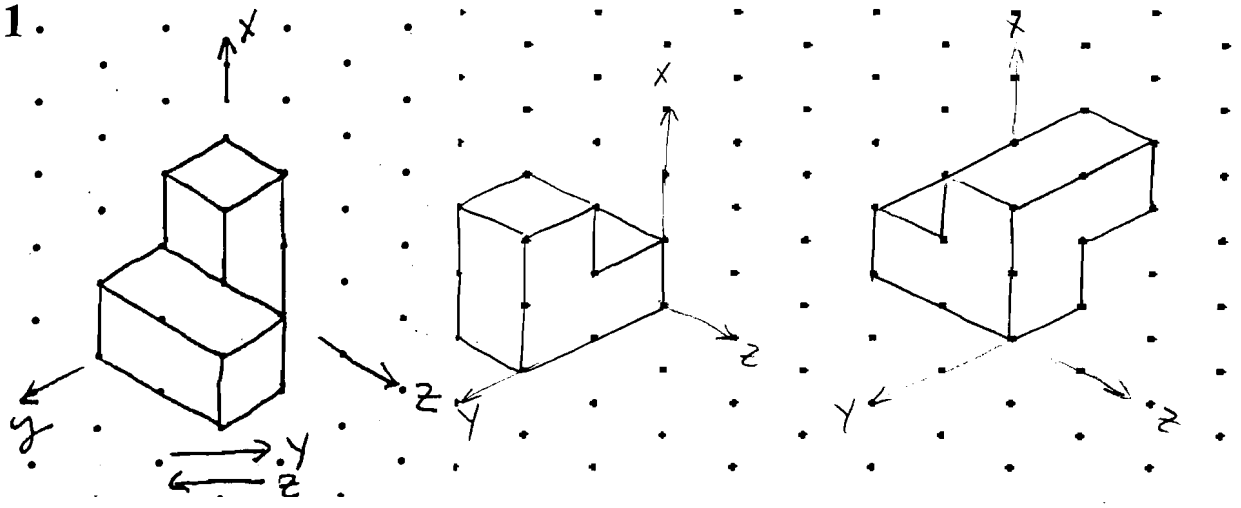
3



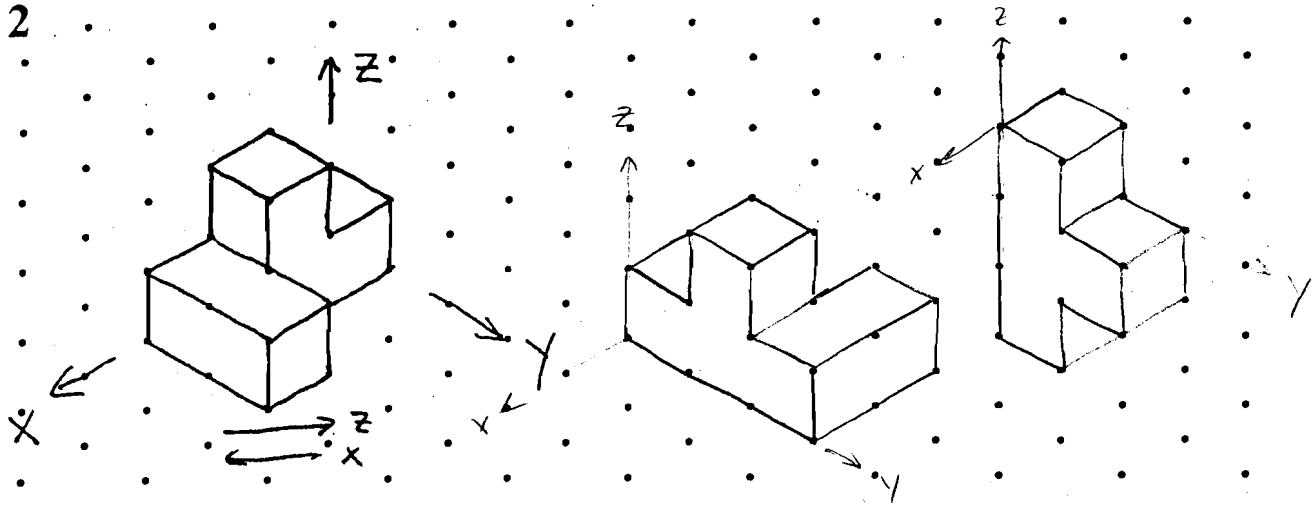
Two Axis Rotation

Rotate the objects below by the indicated amount and sketch their image.

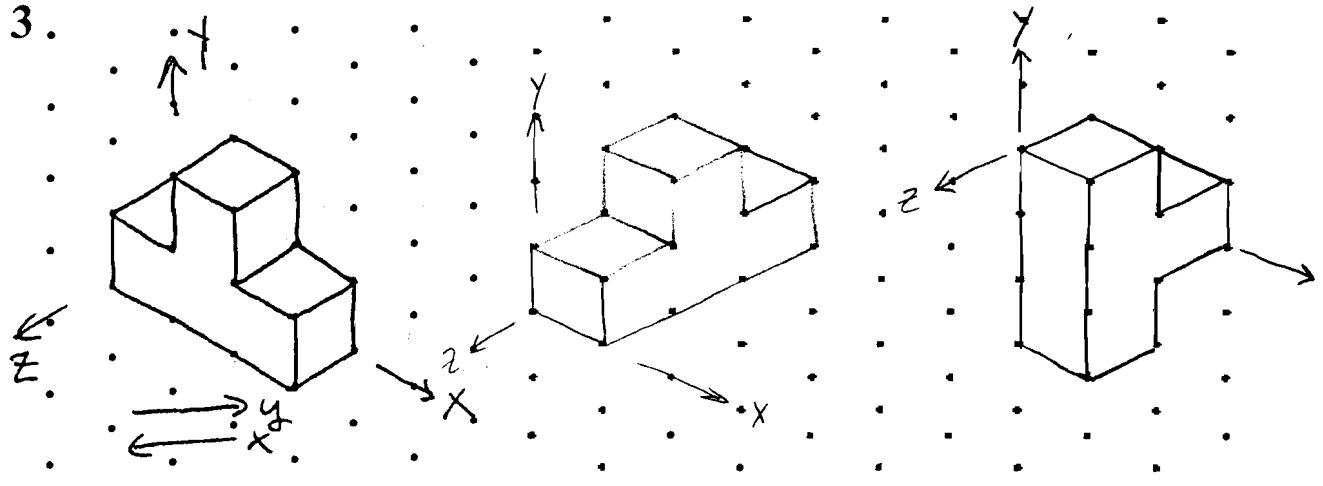
1.



2

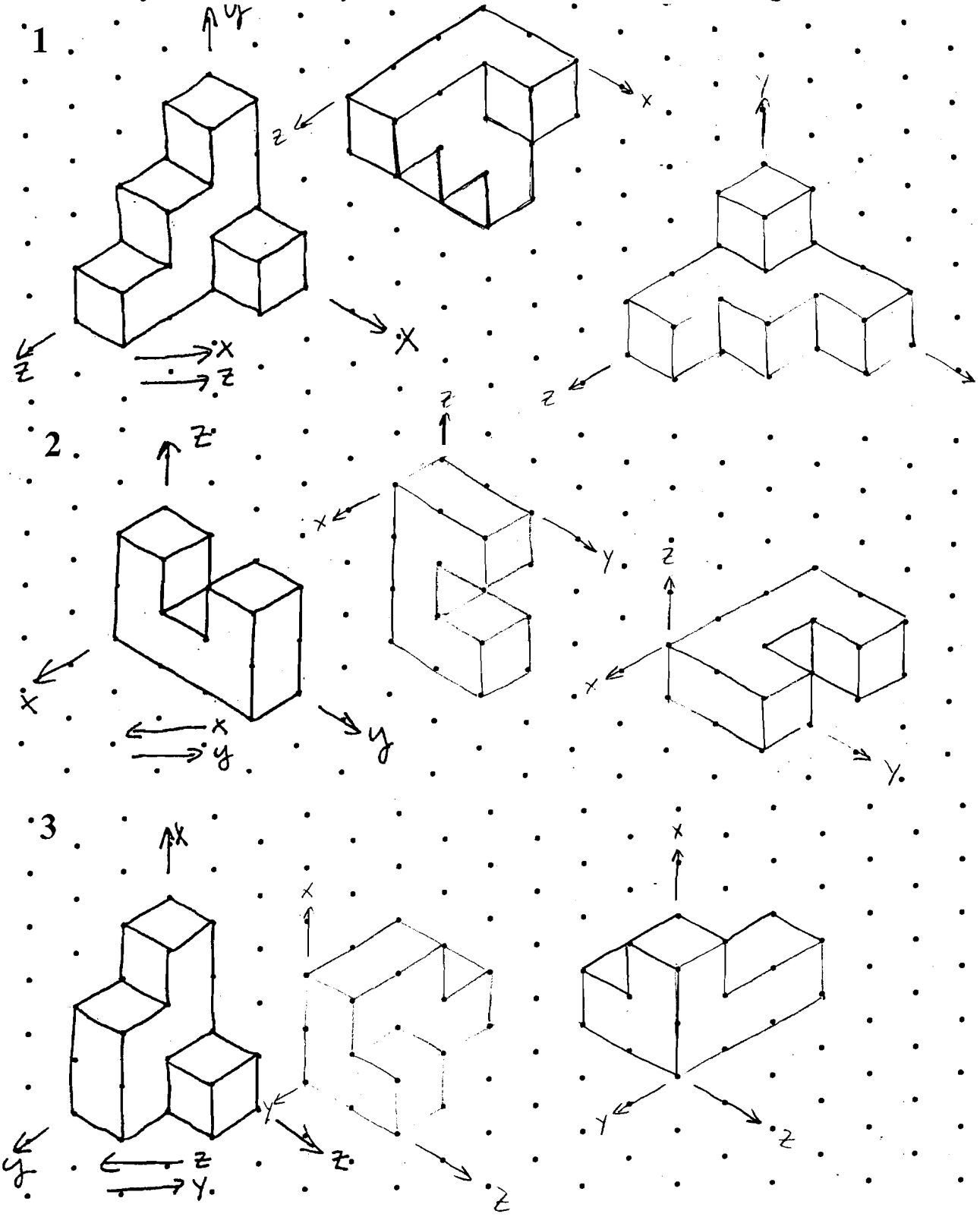


3.



Two Axis Rotation

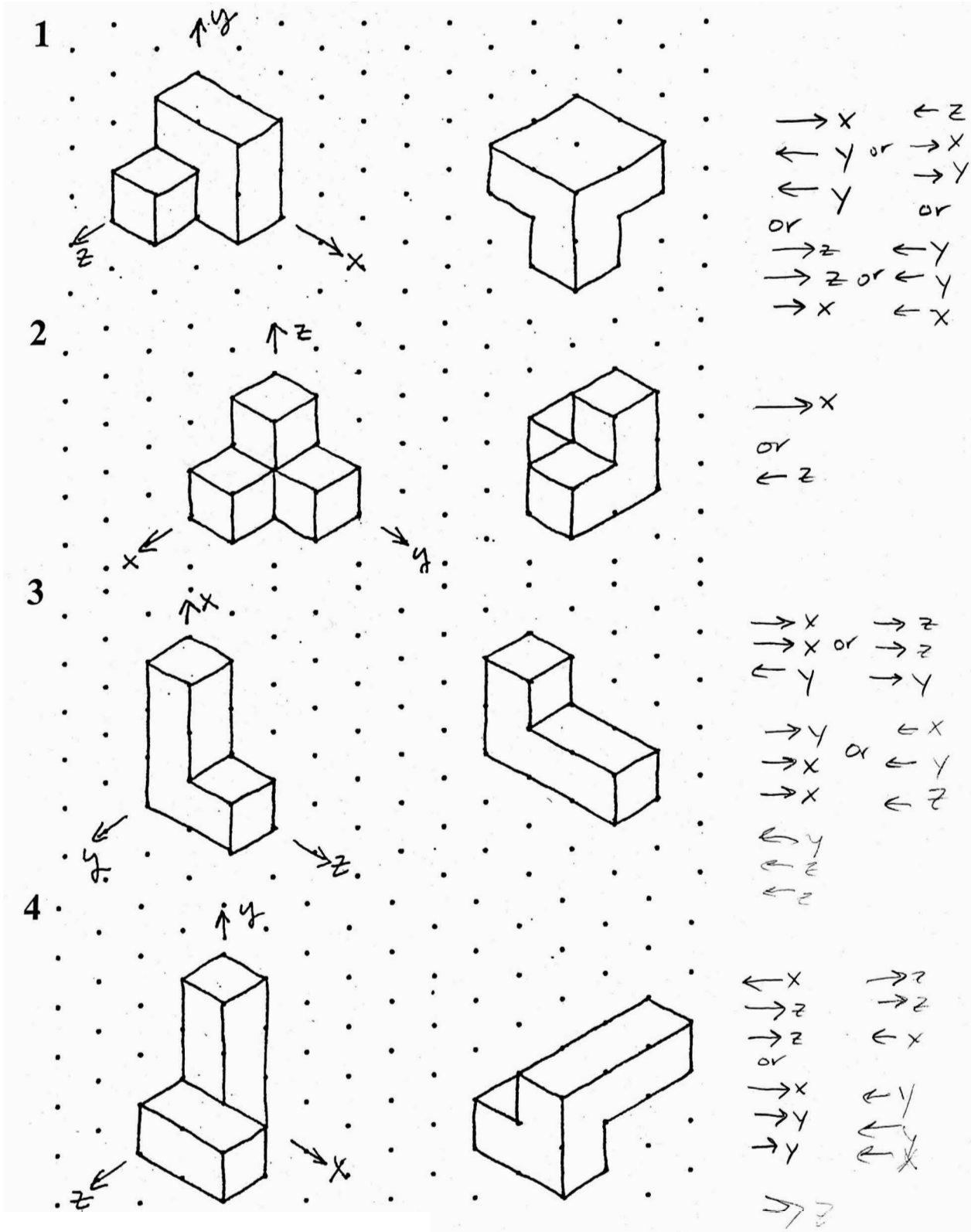
Rotate the objects shown below by the indicated amount and sketch their image.



Rotations

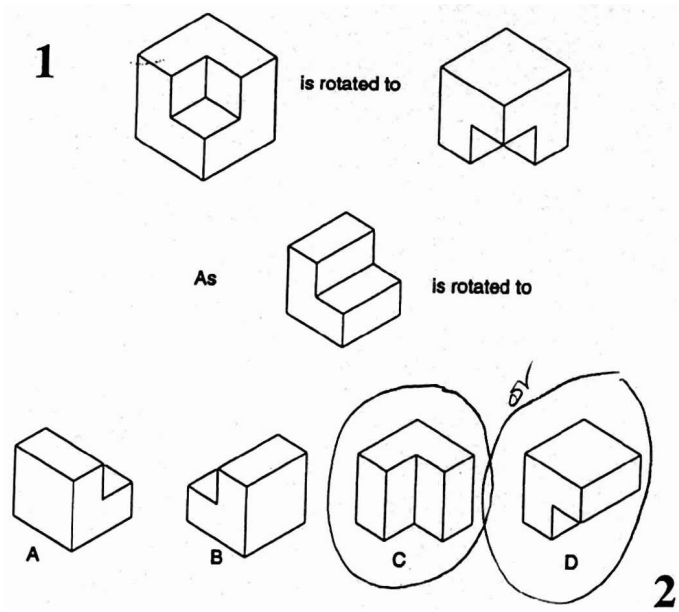
Many possible correct answers

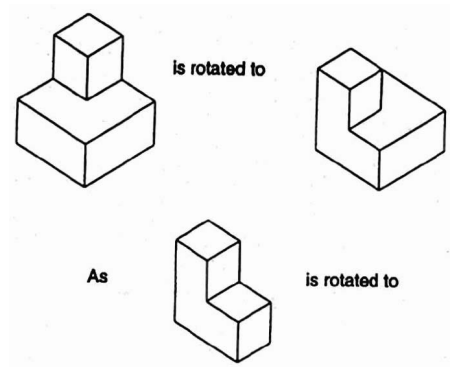
Use arrow coding to indicate the rotation the objects shown below have experienced.

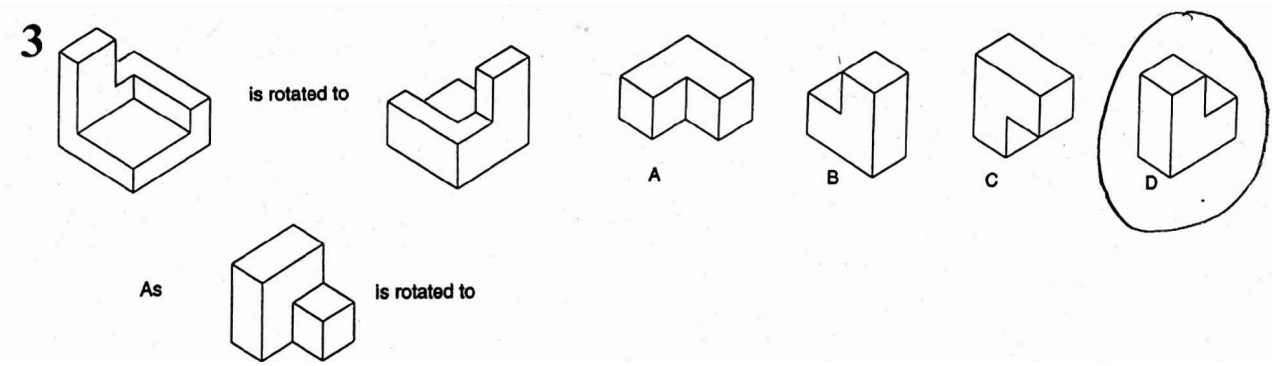


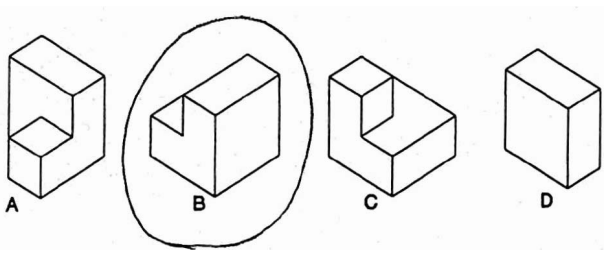
Rotations

Select the drawing (A, B, C, or D) that shows the object in the center being rotated in exactly the same manner as the object being rotated on the first line.





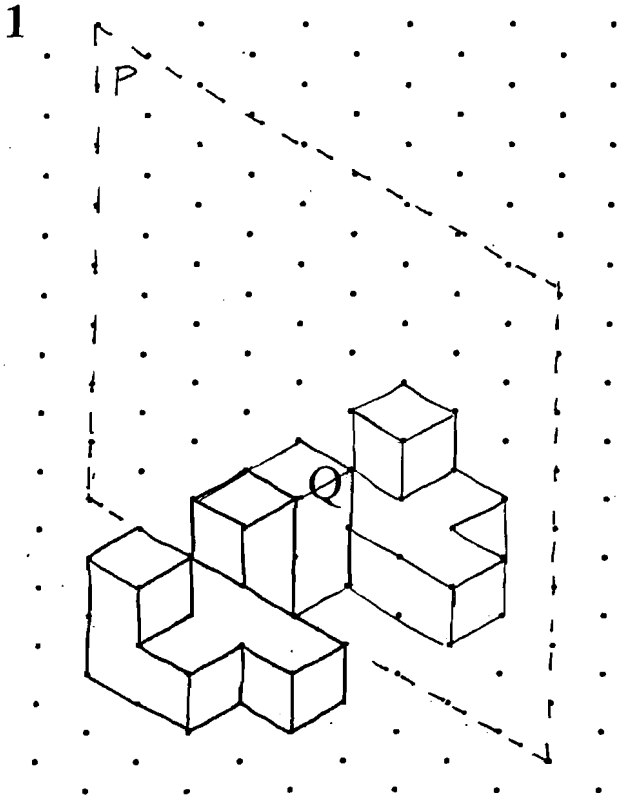




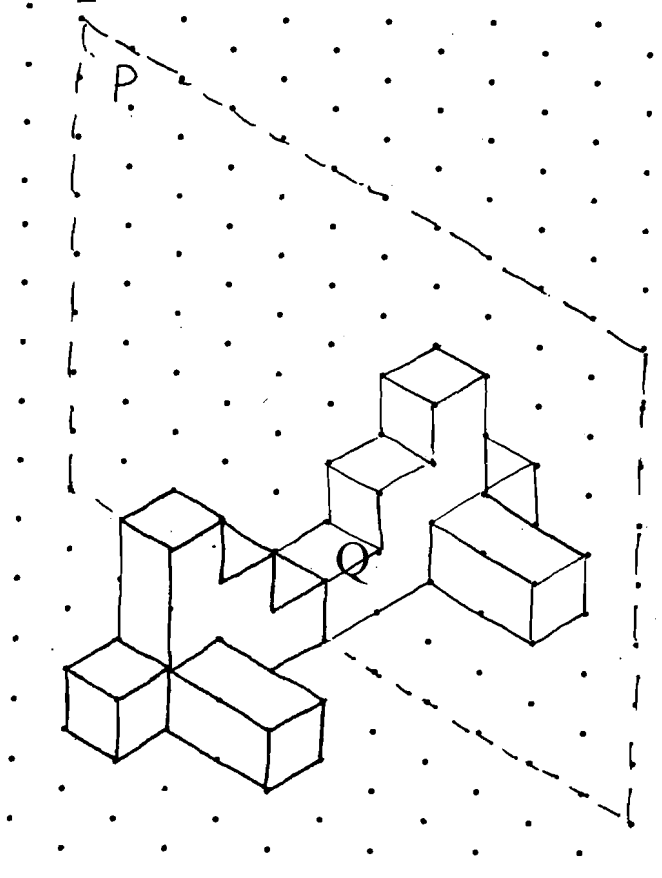
Reflection

Reflect the objects shown below across the indicated plane and sketch their image. Point Q is or
the plane of reflection for each problem.

1



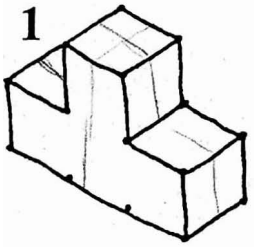
2



Symmetry

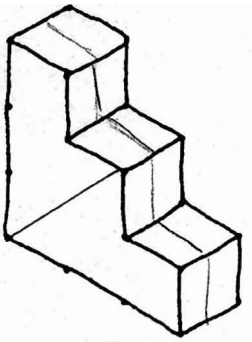
How many planes of symmetry do the objects shown below have?

1



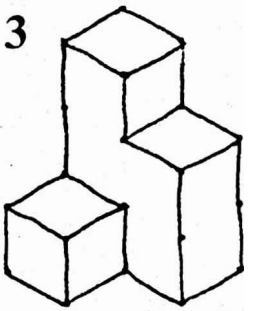
2

2



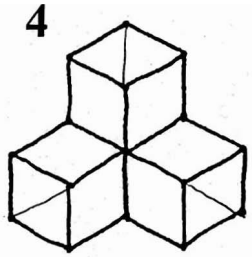
2

3



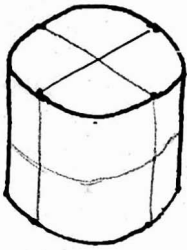
0

4



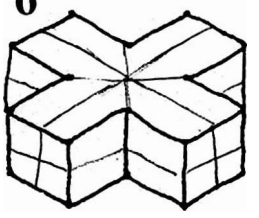
3

5



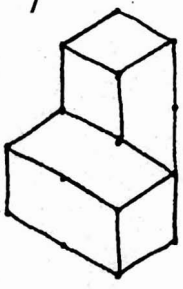
infinite

6



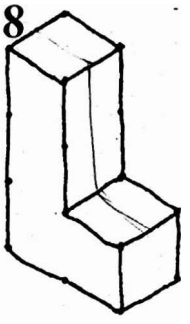
5

7



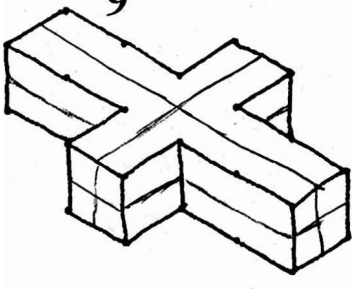
0

8



1

9

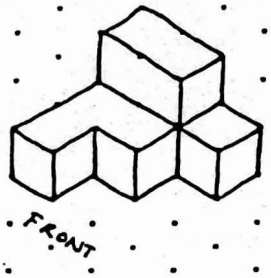


3

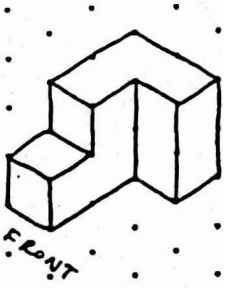
Orthographic Projections - Normal Surfaces

Construct the top, front, and right side views of the objects shown in isometric pictorial. Make sure your views are lined up orthographically and include hidden lines as necessary.

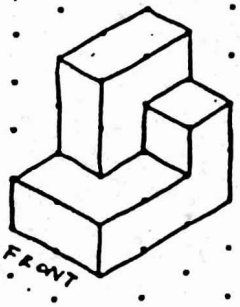
1



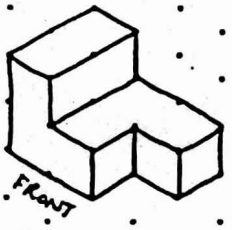
2



3



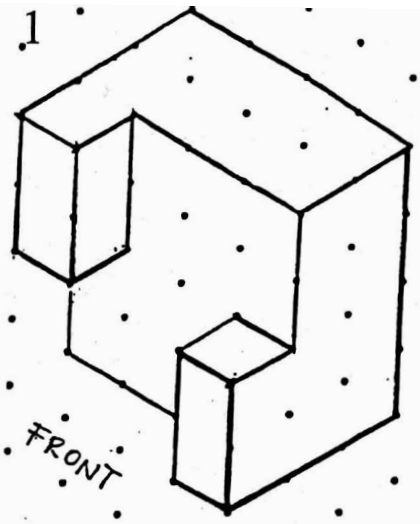
4



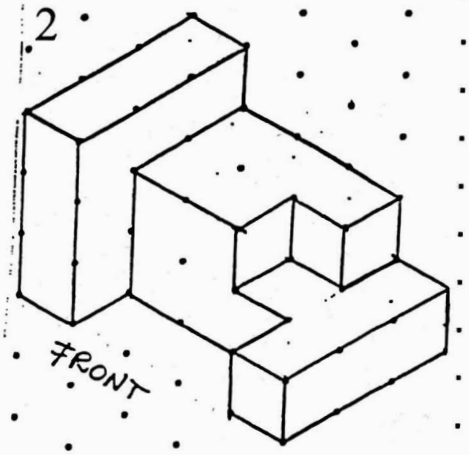
Orthographic Projections - Normal Surfaces

Construct the top, front, and right side views of the objects shown in isometric pictorial. Make sure your views are lined up orthographically and include hidden lines as necessary.

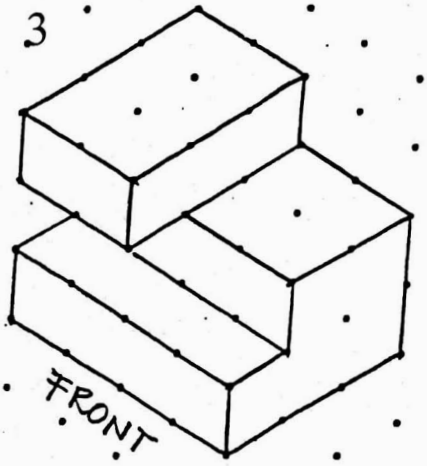
1



2



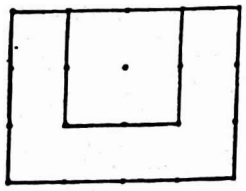
3



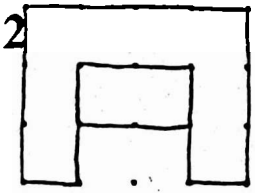
Orthographic Projections - Normal Surfaces

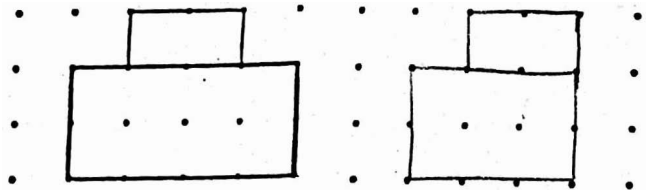
Given the two views of the objects shown below, construct the third view in the space provided

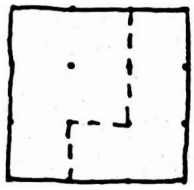
1



2







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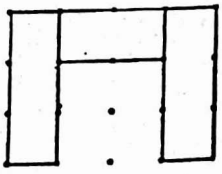
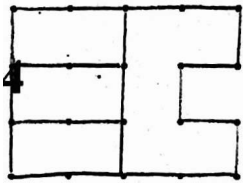
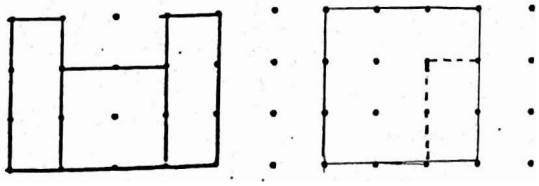
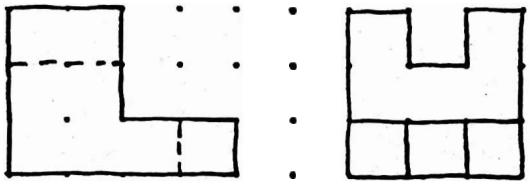


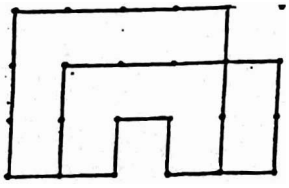
4



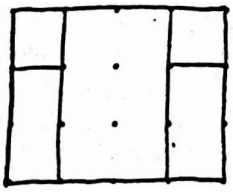


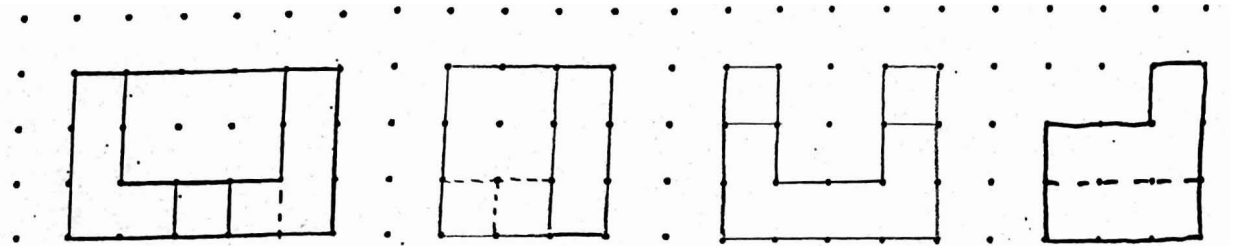


5



6

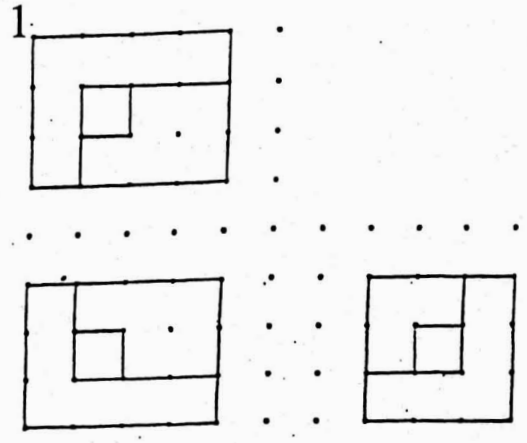


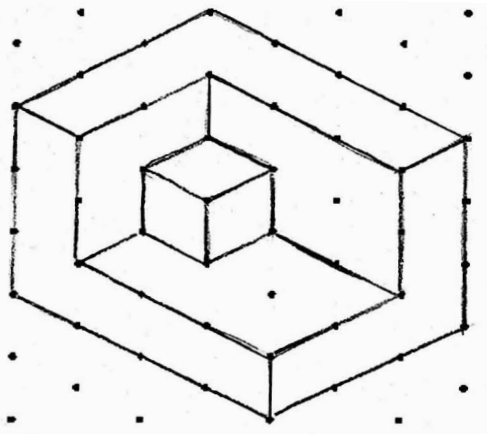


Orthographic Projections - Normal Surfaces

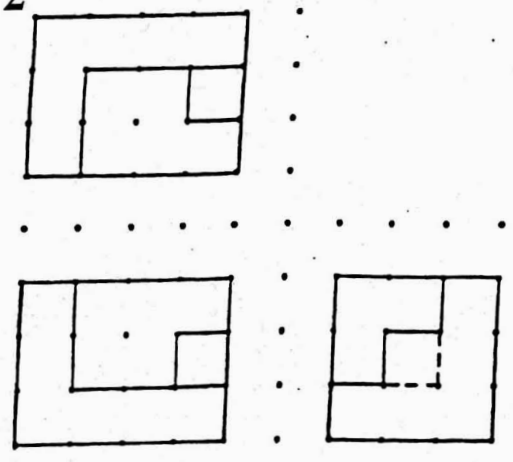
Sketch an isometric pictorial view in the space provided of the objects shown in orthographic projection below.

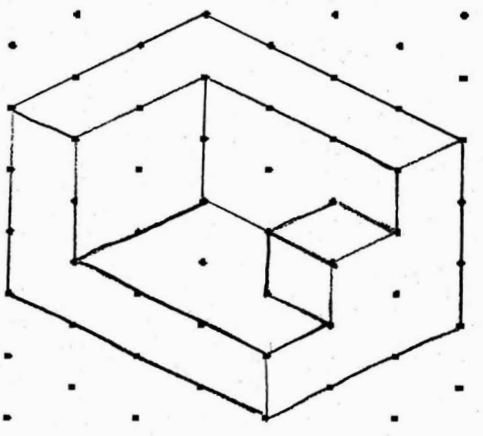
1



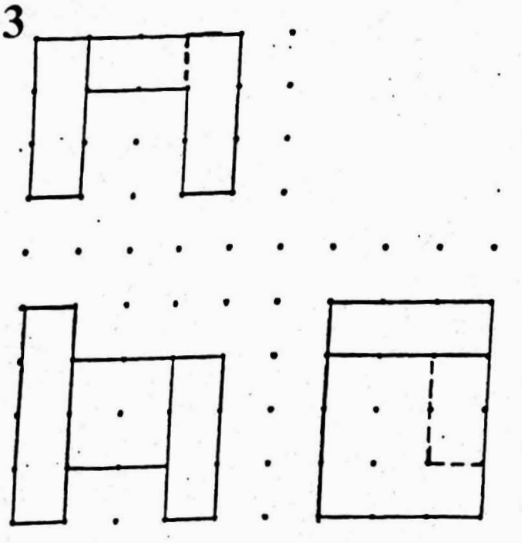


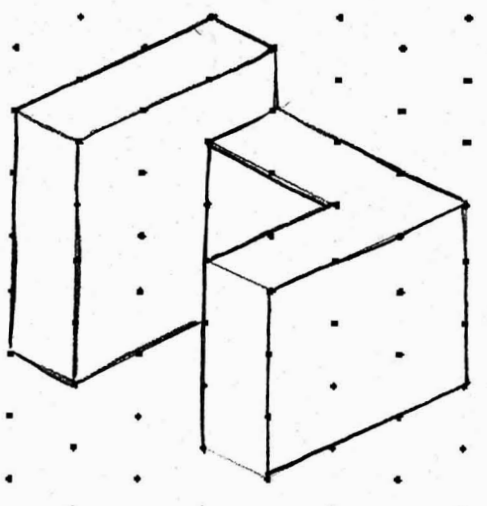
2





3

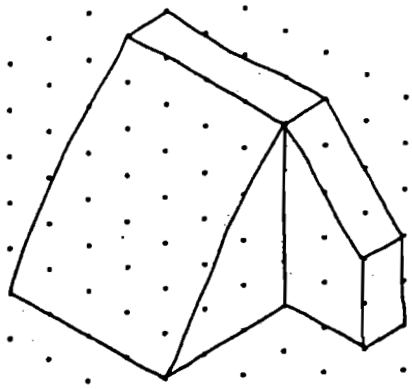




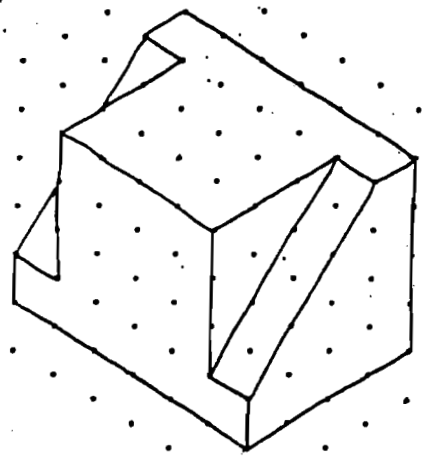
Orthographic Projections - Inclined Surfaces

Construct the top, front, and right side views of the objects shown in isometric pictorial. Make sure your views are lined up orthographically and include hidden lines as necessary.

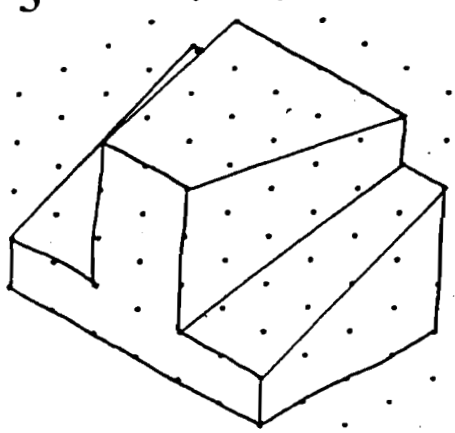
1



2



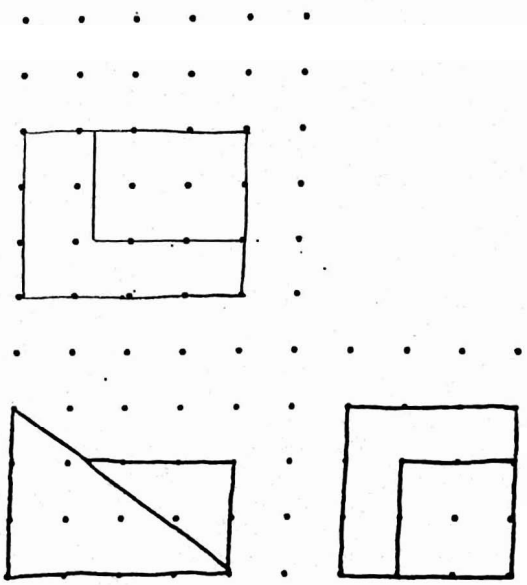
3



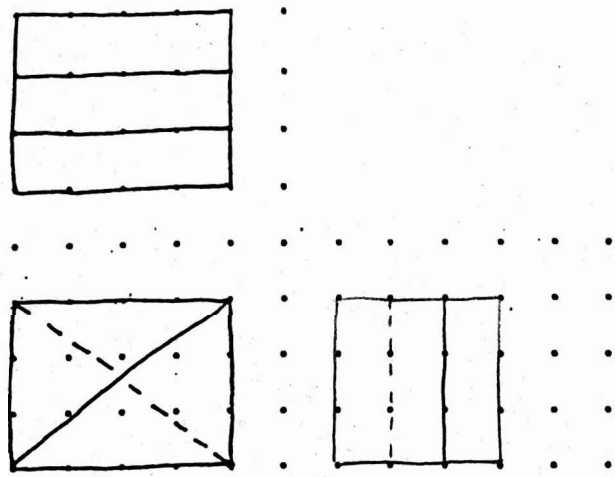
Orthographic Projections - Inclined Surfaces

Given the two views of the objects shown below, construct the third view in the space provided.

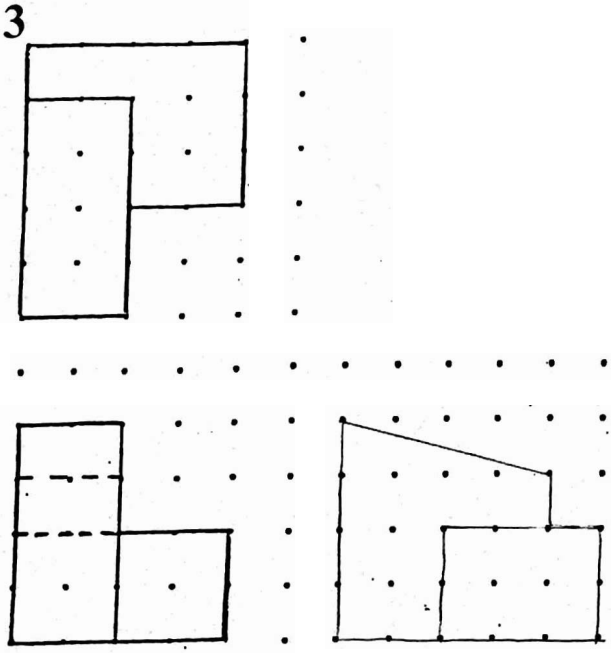
1



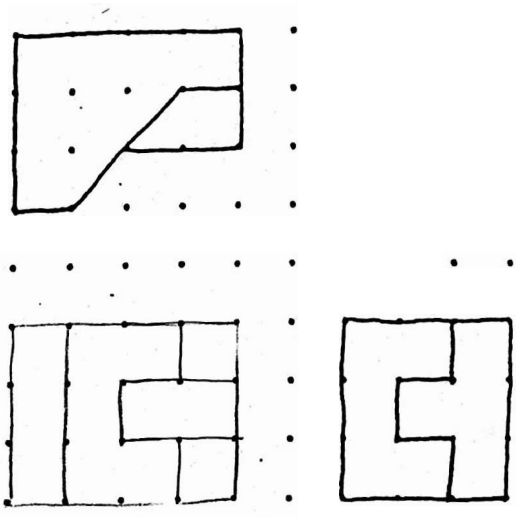
2



3



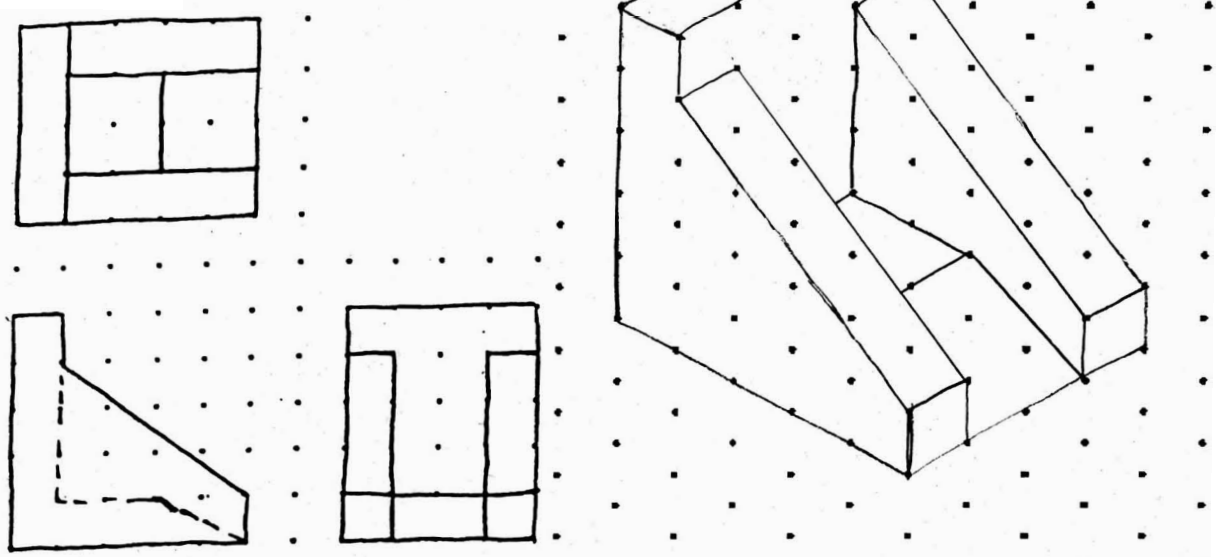
4



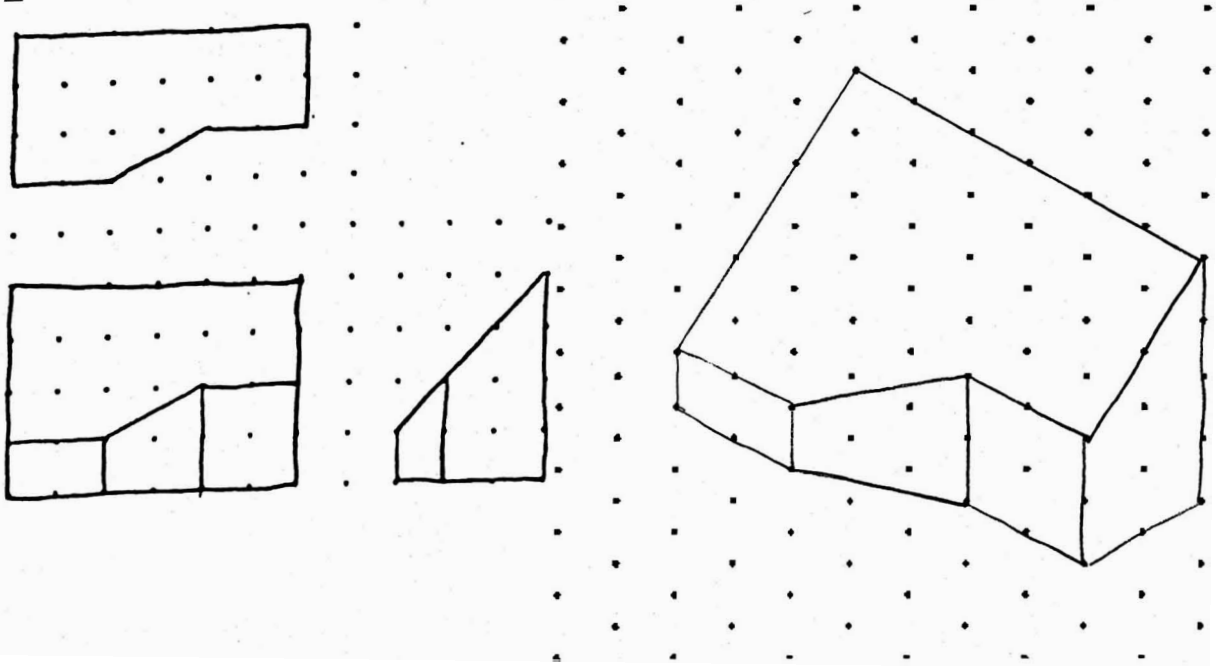
Orthographic Projections - Inclined Surfaces

Sketch an isometric pictorial view in the space provided of the objects shown in orthographic pro jection below.

1



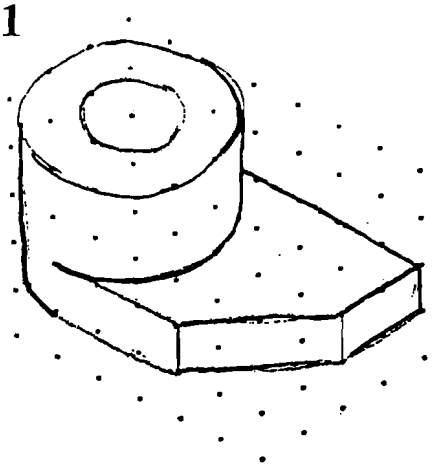
2



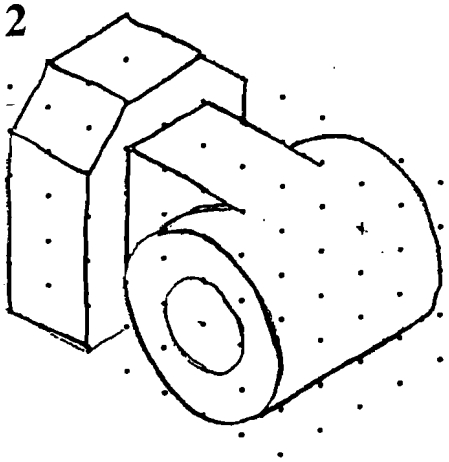
Orthographic Projections - Single Curved Surfaces

Construct the top, front, and right side views of the objects shown in isometric pictorial. Make sure your views are lined up orthographically and include hidden lines as necessary.

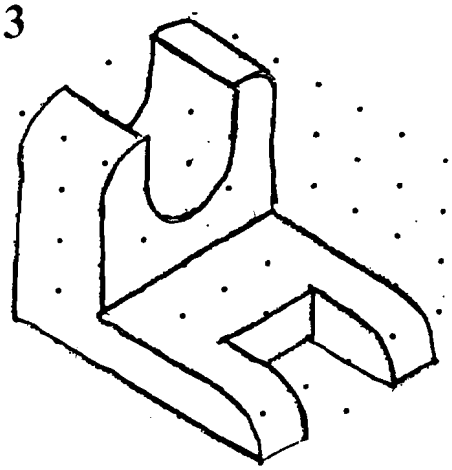
1



2



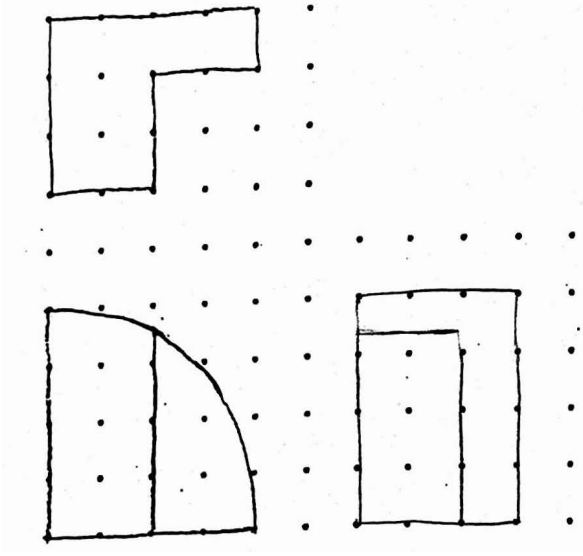
3



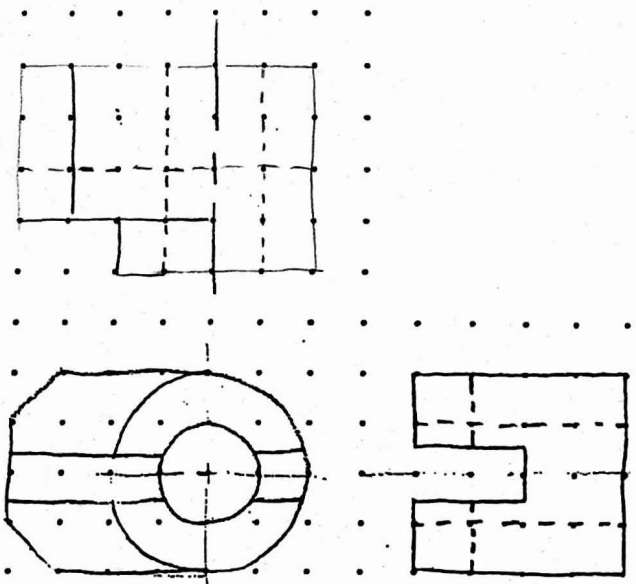
Orthographic Projections - Single Curved Surfaces

Given the two views of the objects shown below, construct the third view in the space provided.

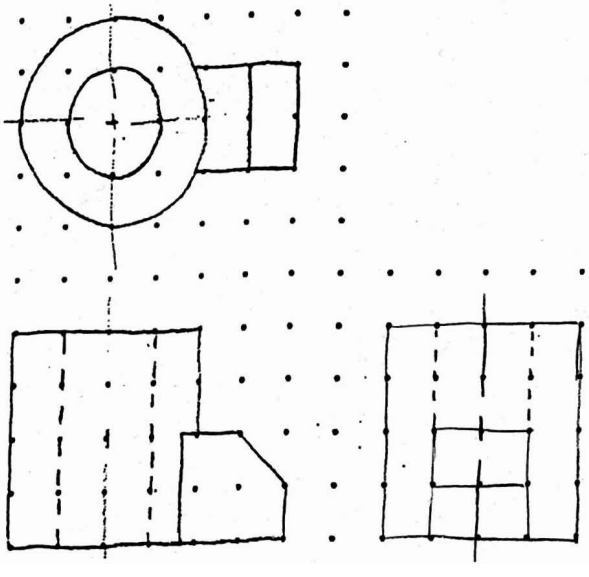
1



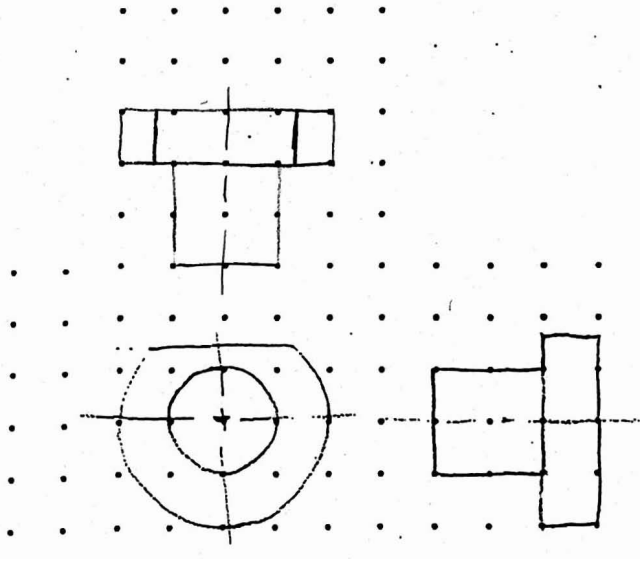
2



3



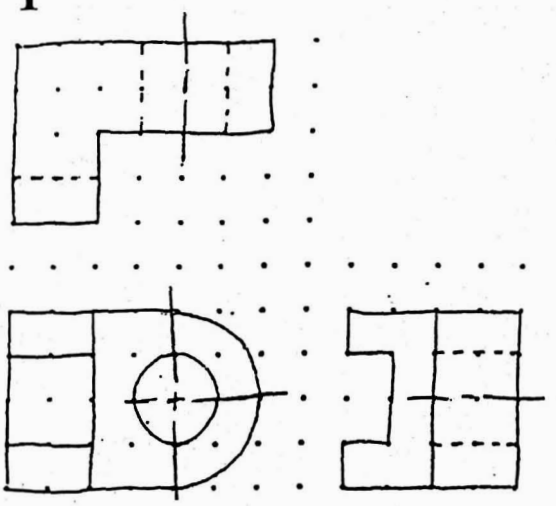
4

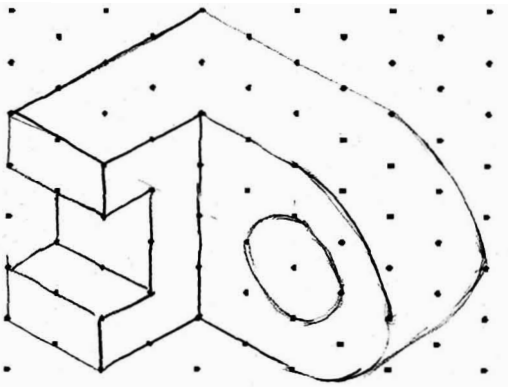


Orthographic Projections - Single Curved Surfaces

Sketch an isometric pictorial view in the space provided of the objects shown in orthographic projection below.

1





2