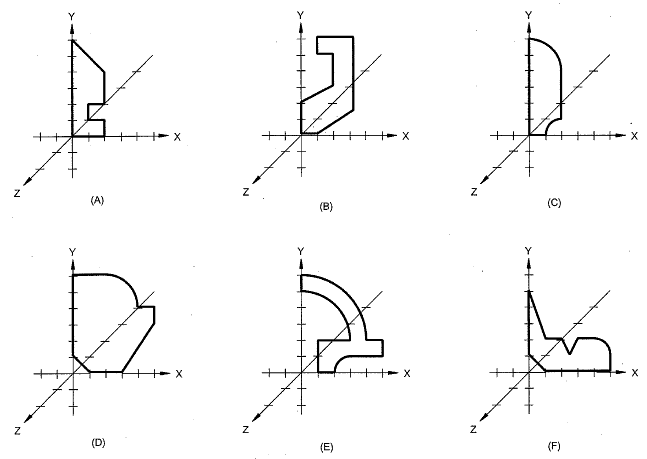
STUDY SET 04

MODELING FUNDAMENTALS

# PROBLEMS FOR LABORATORY WORK

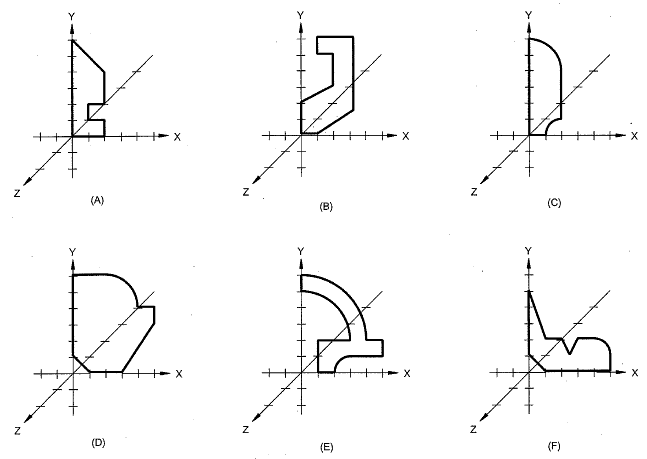
## 4.1 Circular Sweep

Sketch the resulting solid model if the given profiles were to be circularly swept 360 degrees about the Y axis.



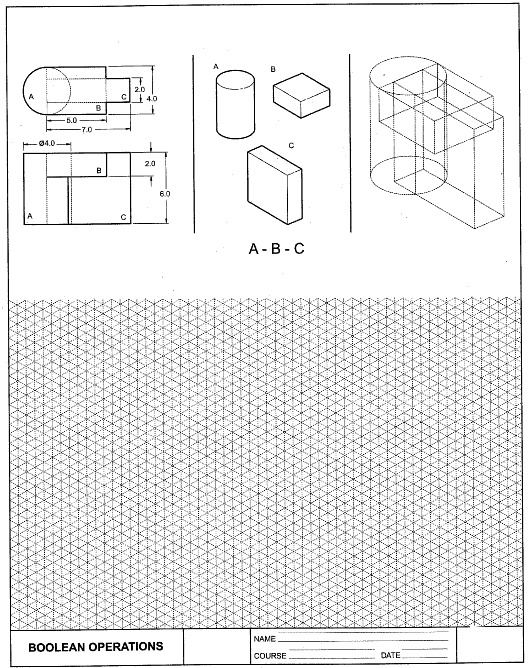
## 4.2 Linear Sweep

Sketch the resulting solid model if the given profiles were to be linearly swept 2 units along the +Z axis.



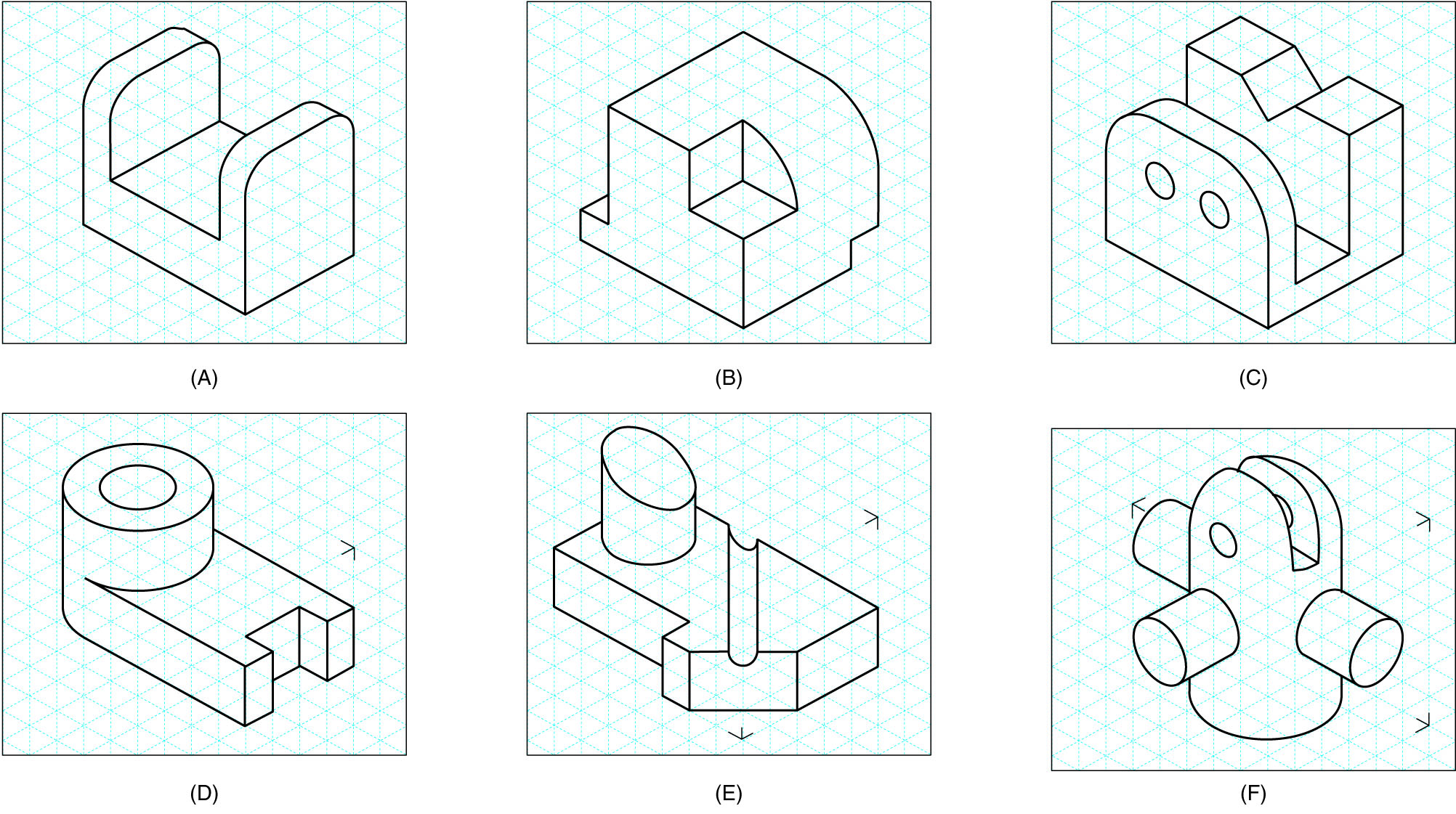
## 4.3 Boolean Operations

Given the three overlapping solid primitives, make an isometric sketch of the resulting solid after applying the following Boolean operations: A-B-C.



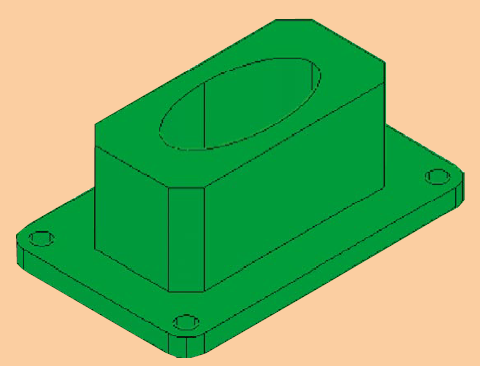
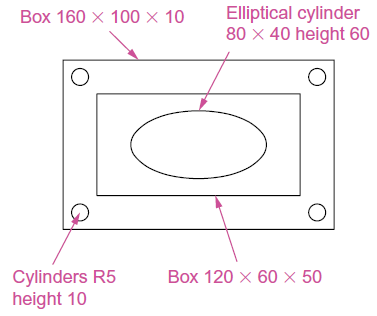
## 4.4 Problem 4.6 (Figure 4.51)

Create the objects using solid modeling techniques. Use grid snap.



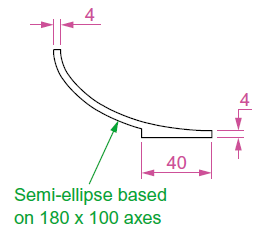
## 4.5 Solid Exercise 1

Create the objects given below using the top view dimensions.



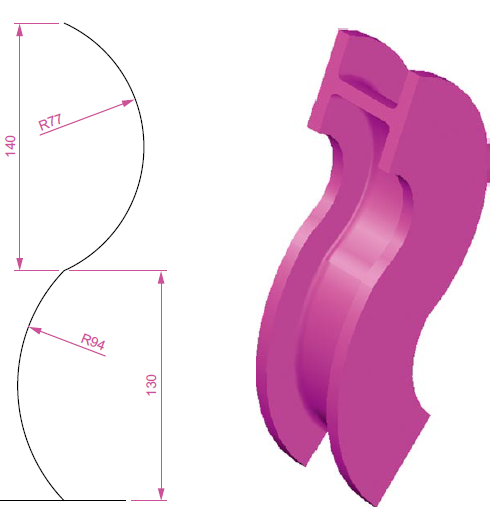
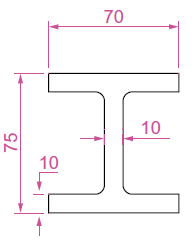
## 4.6 Solid Exercise 3

Create the objects given below using the top view dimensions.



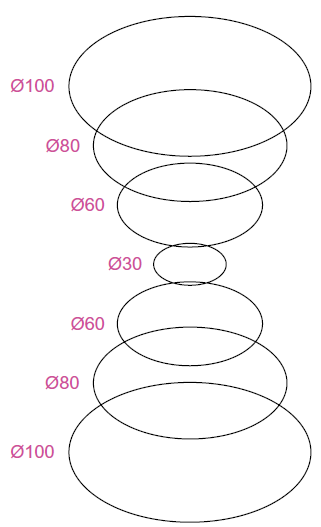
## 4.7 Solid Exercise 4

Create the objects given below using the top view dimensions and the directrix.



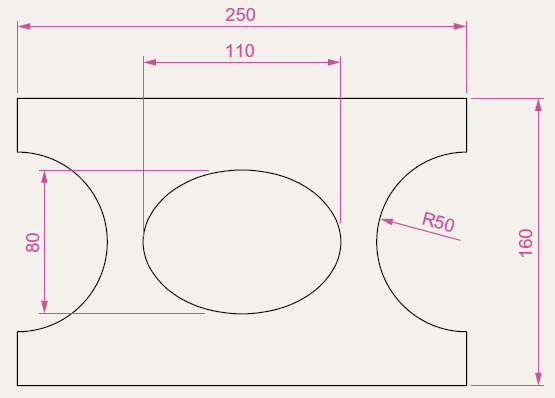
## 4.8 Solid Exercise 5

Create the objects given below using loft tool.



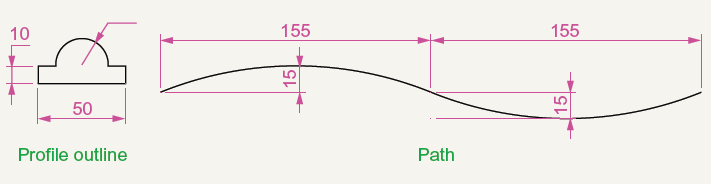
## 4.9 Solid Exercise 6

Working to the dimensions given, construct an extrusion of the plate to a height of 40 units.



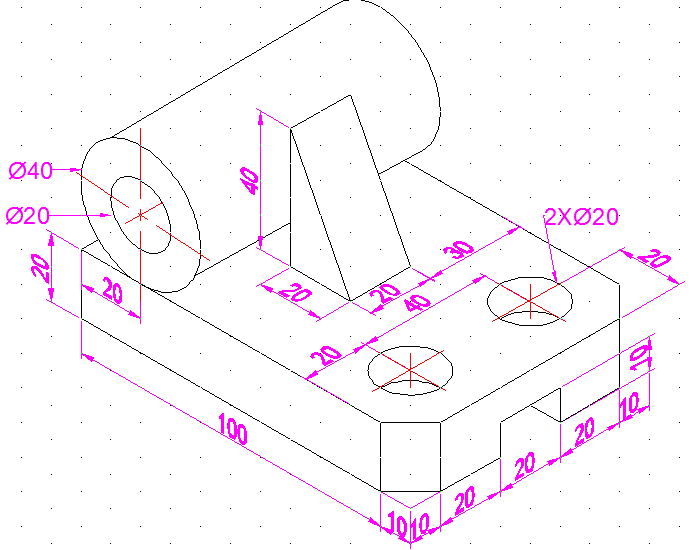
## 4.10 Solid Exercise 7

Working to the polylines given, construct the **Sweep** shown below.



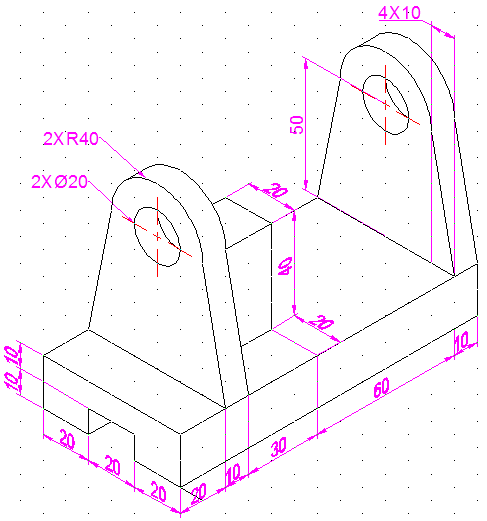
## 4.11 Solid Exercise 9

Construct the solid modelshown below.



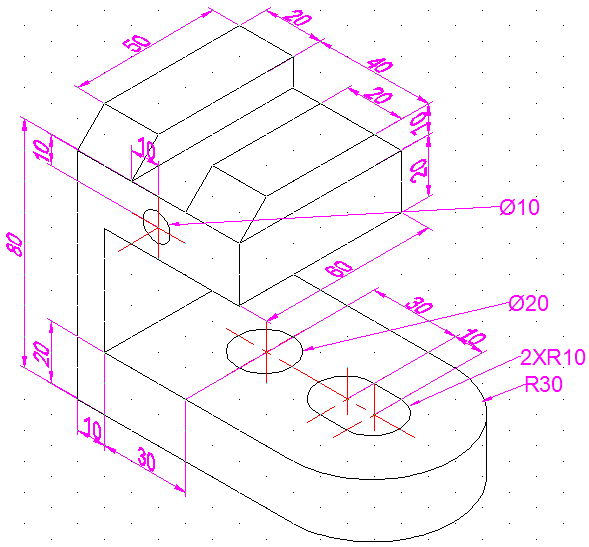
## 4.12 Solid Exercise 10

Construct the solid modelshown below.



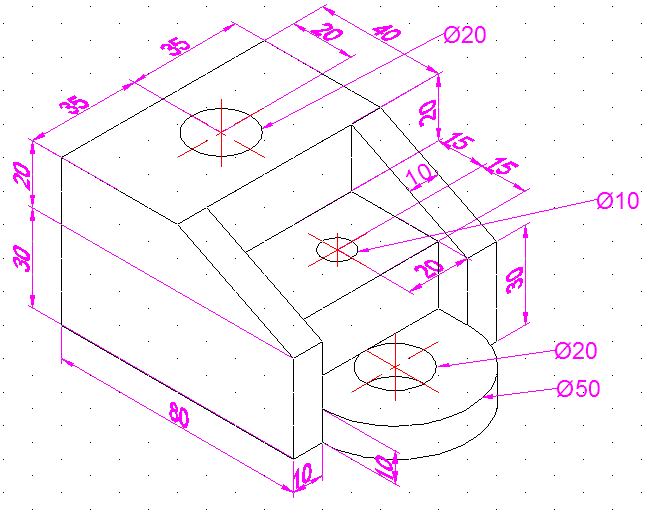
## 4.13 Solid Exercise 11

Construct the solid modelshown below.



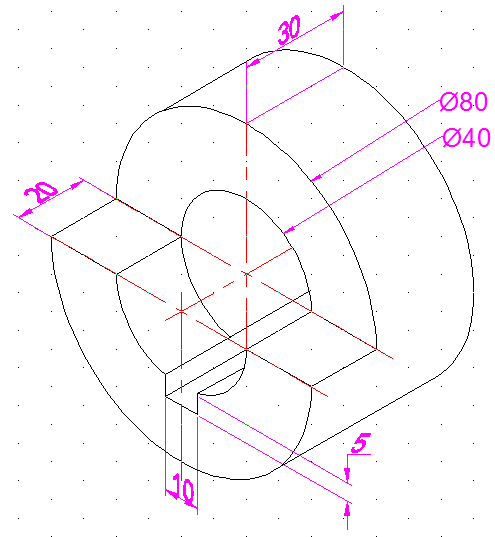
## 4.14 Solid Exercise 12

Construct the solid modelshown below.



## 4.15 Solid Exercise 13

Construct the solid modelshown below.

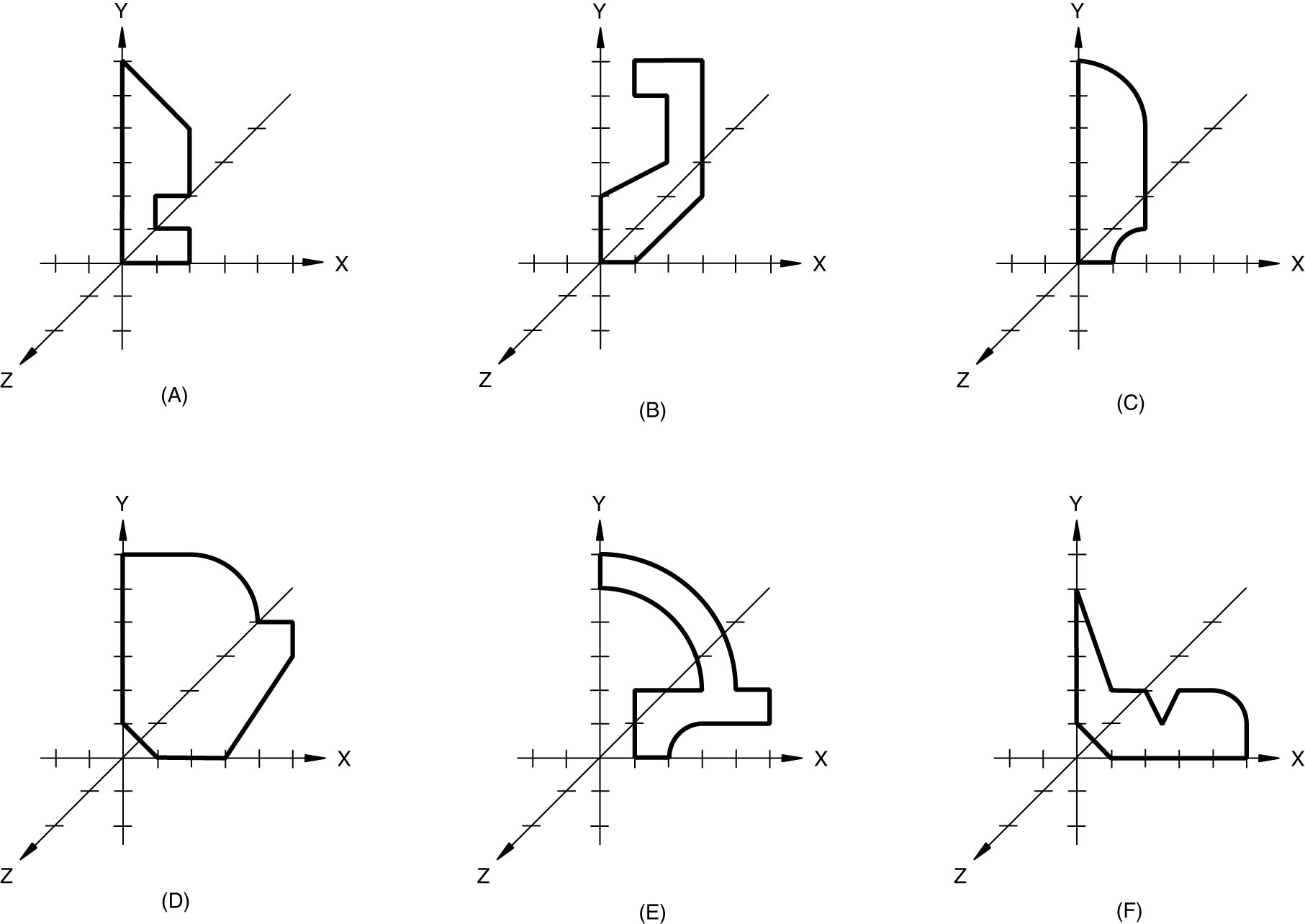


# SELECTEDPROBLEMS

## 4.1 Linear/Circular Sweep

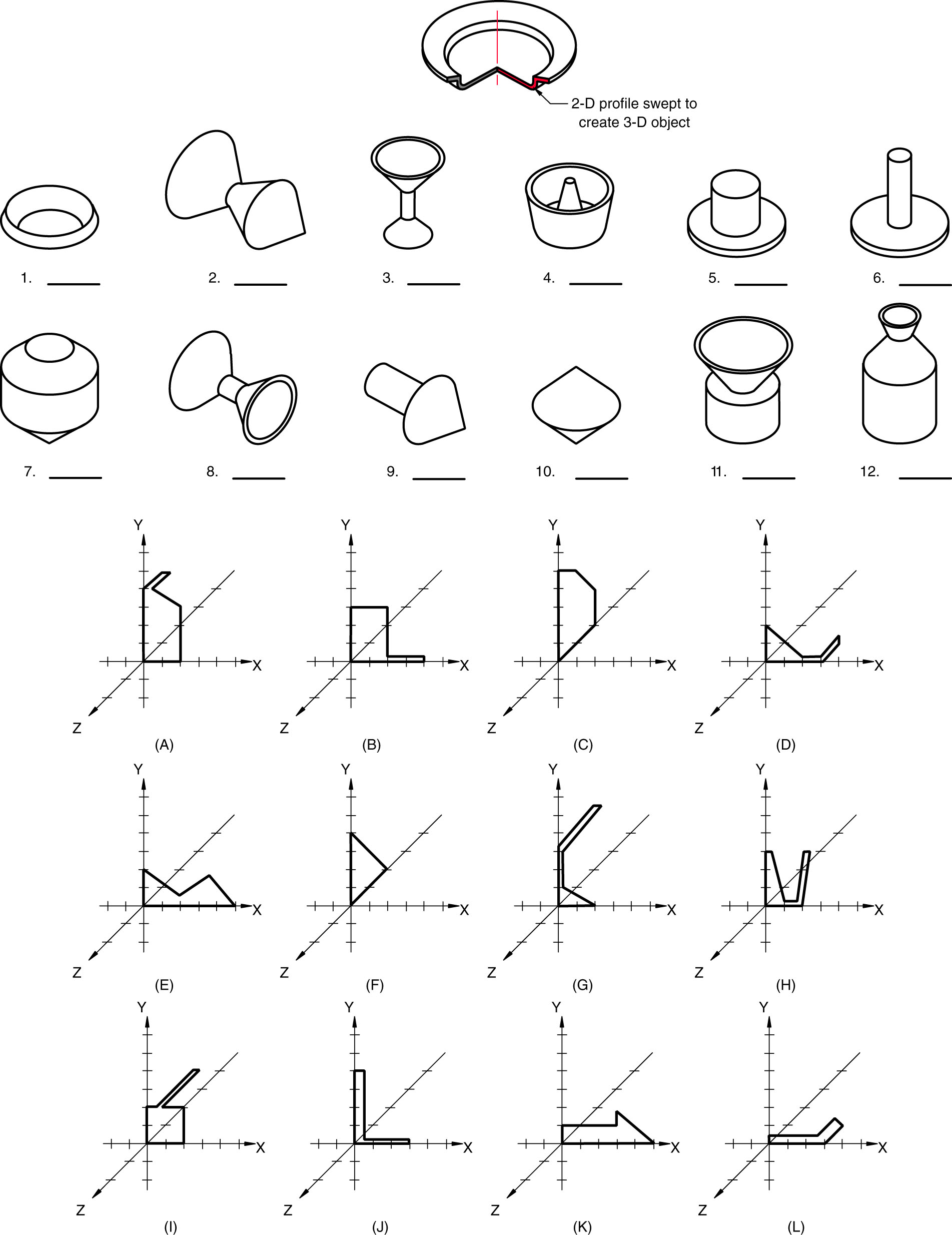
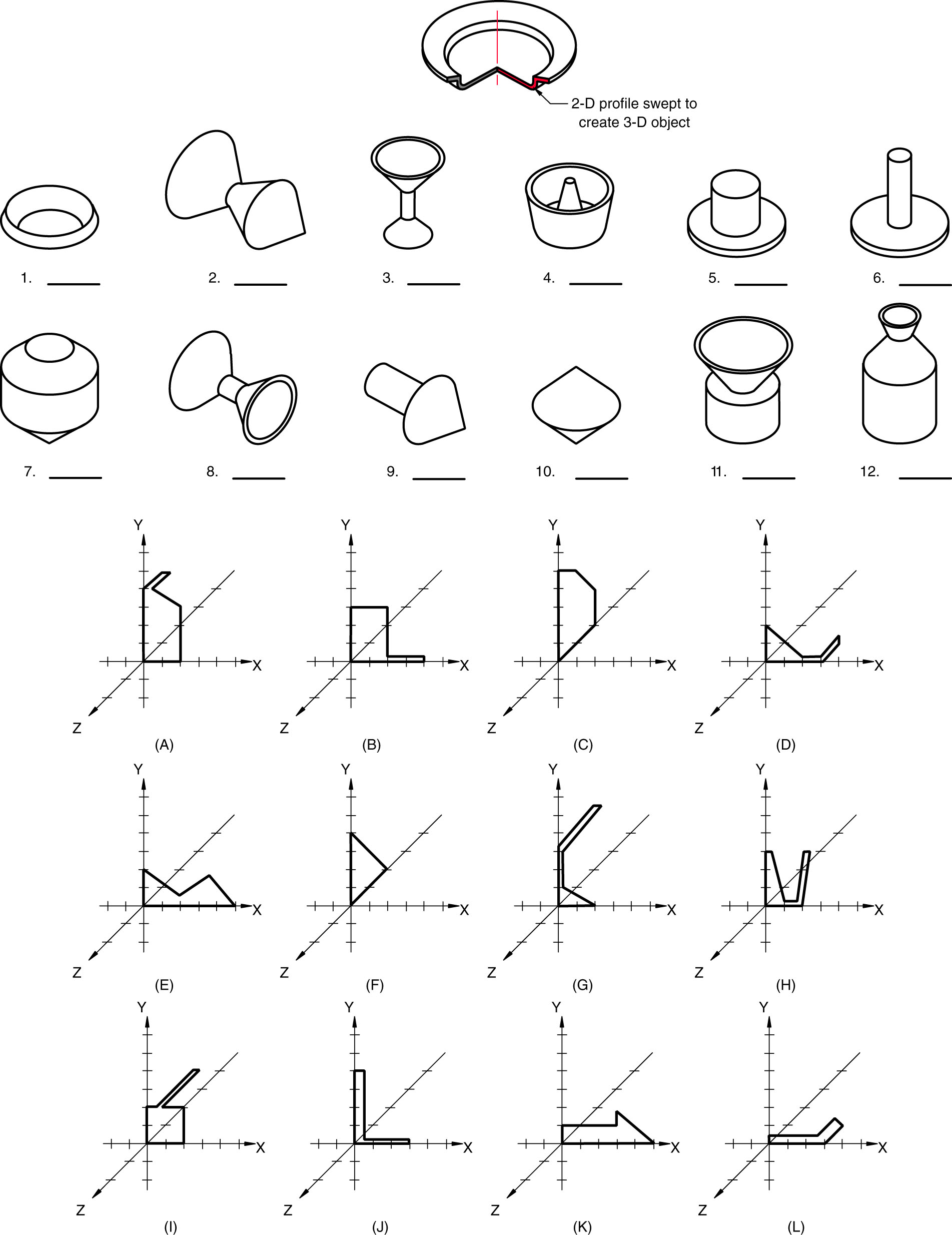
Create wireframe or solid by sweeping the profiles using a scale of 1:1.

1. Sweep linearly 5 units along the +Z axis.
2. Sweep linearly along the vector (2,-3,5).
3. Sweep 3600 about the Y axis.
4. Sweep 3600 about the X axis.
5. Sweep 900 about the +X axis.
6. Sweep 2700 about the -Y axis.
7. Sweep 3600 about the Y axis offset 2 units in -X direction.



## 4.2 Problem 4.3

Match the 12 objects swept using diffrents 12 profiles.

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## 4.3 Problem 4.7

Create the objects using wireframe or solid modeling techniques in a 1:1 scale.

