

# Orthographic Projection

Basic Topics

Advanced Topics

# Ortho. Projection: Basic Topics

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# Engineering Graphics

- 1.1) Introduction to Engineering Graphics
- What is Engineering Graphics?
- What is an Engineering Drawing?

# Engineering Graphics

- Examples of Engineering Drawings
  - Mechanical Engineers
    - Detailed drawing of a part that needs to be machined.
  - Electrical Engineers
    - A circuit schematic.
    - Circuit board layout.
  - Civil Engineers
    - Plans for a bridge.
    - Road layout.

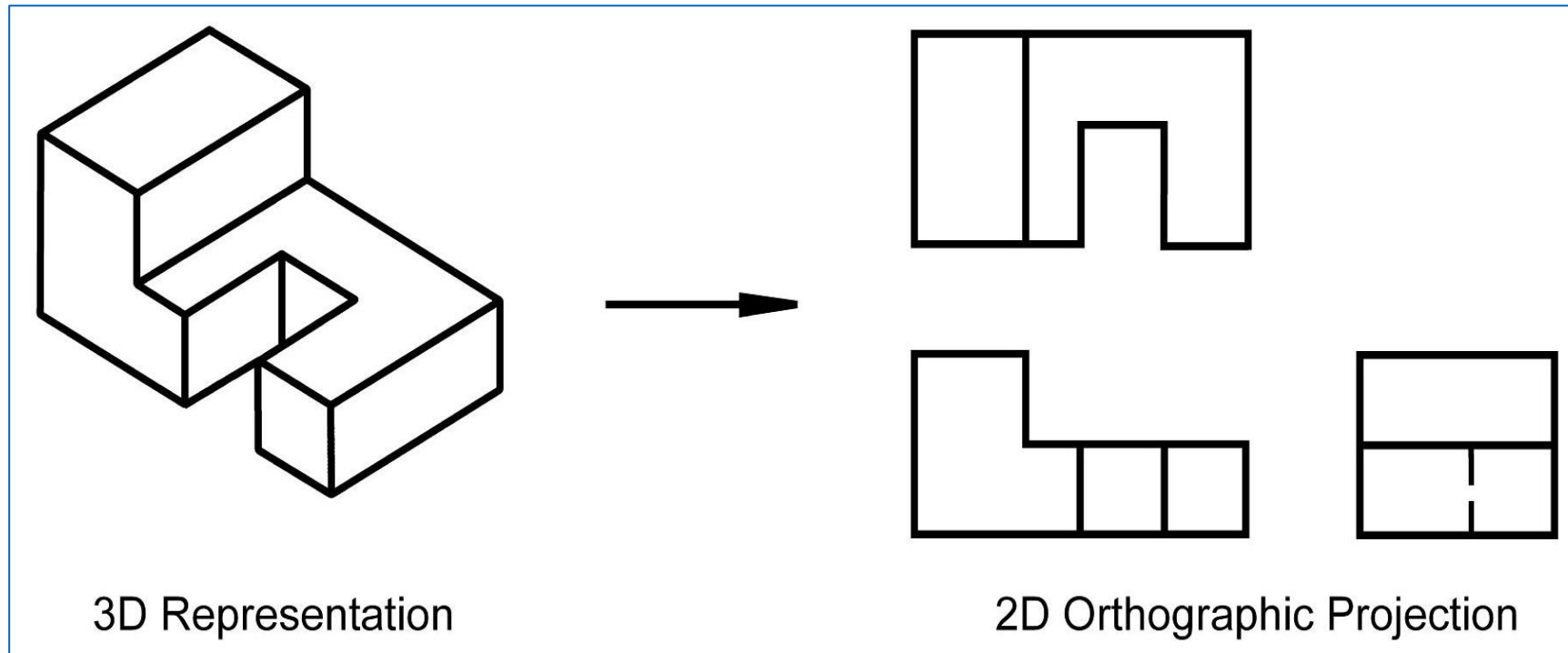
# Orthographic Projection

## Summary

- What will we learn in Chapter 1?
  - How to create an orthographic projection.
- Key points
  - An orthographic projection is a 2-D representation of a 3-D object.
- 1.2) Orthographic Projection Introduction

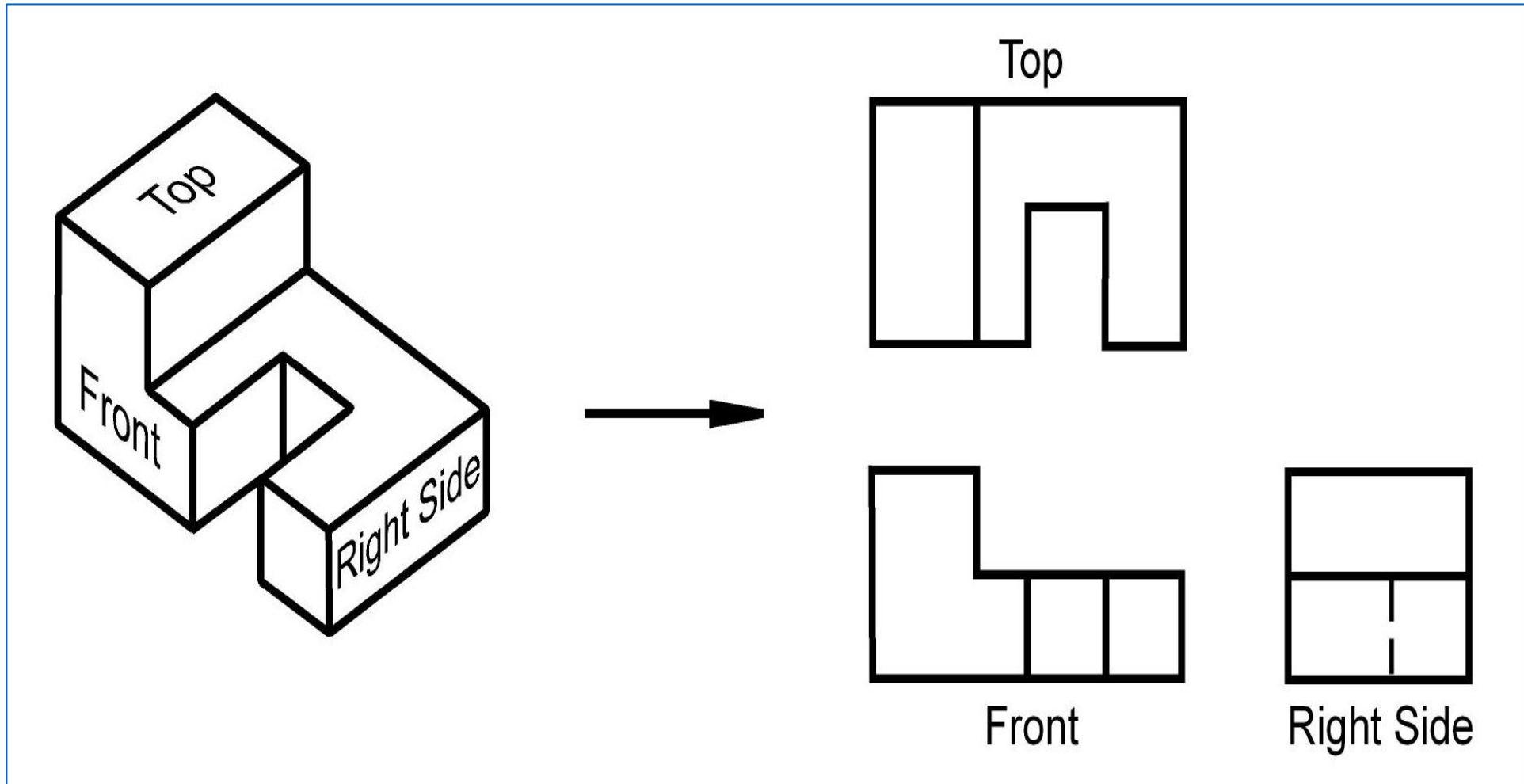
# Introduction

- Orthographic projection = 2-D
- representation of a 3-D object.



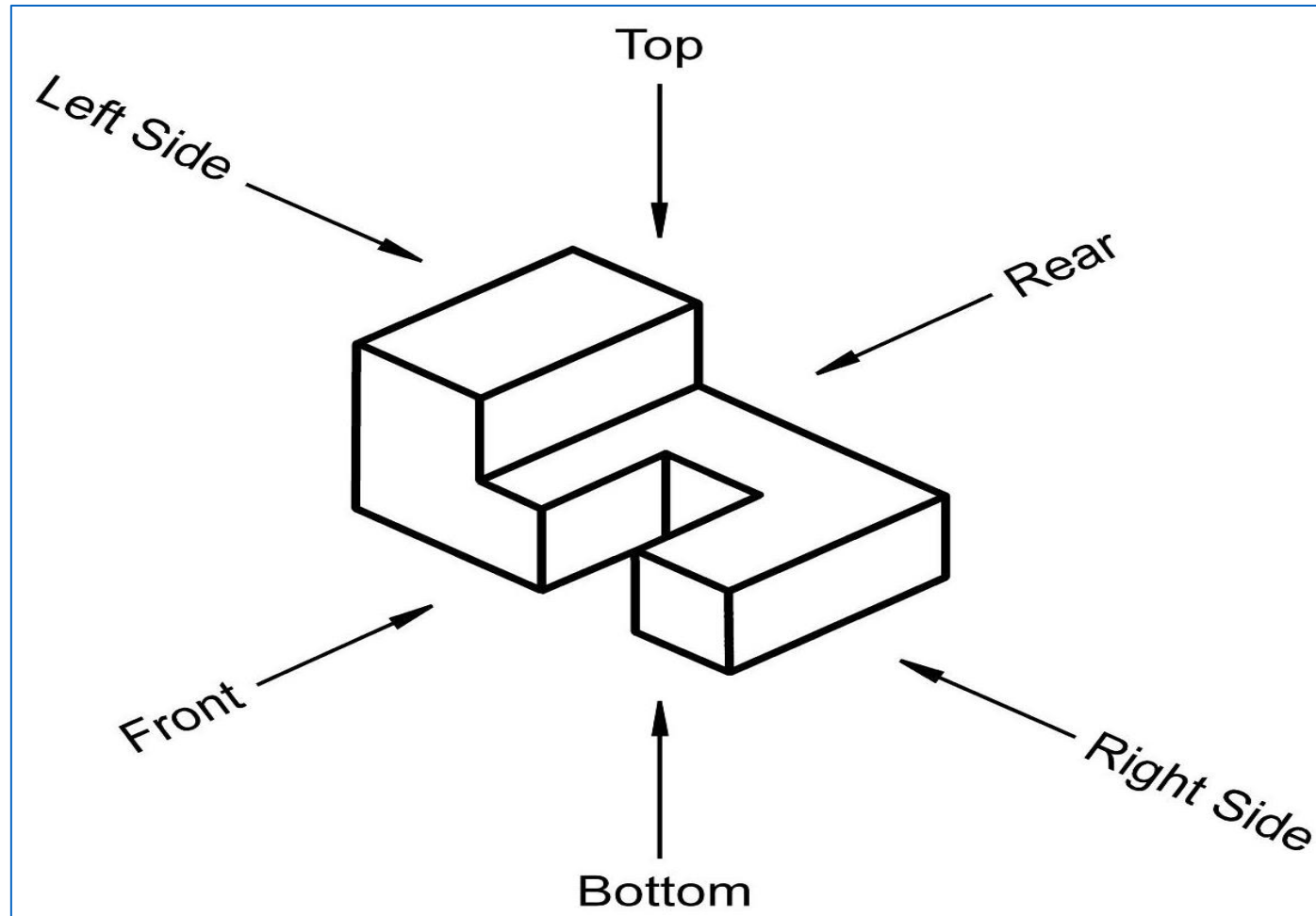
# Introduction

- An orthographic projection represents different sides of an object.



# The Six Principal Views

- The 6 principal views are created by looking at the object, straight on, in the directions indicated.

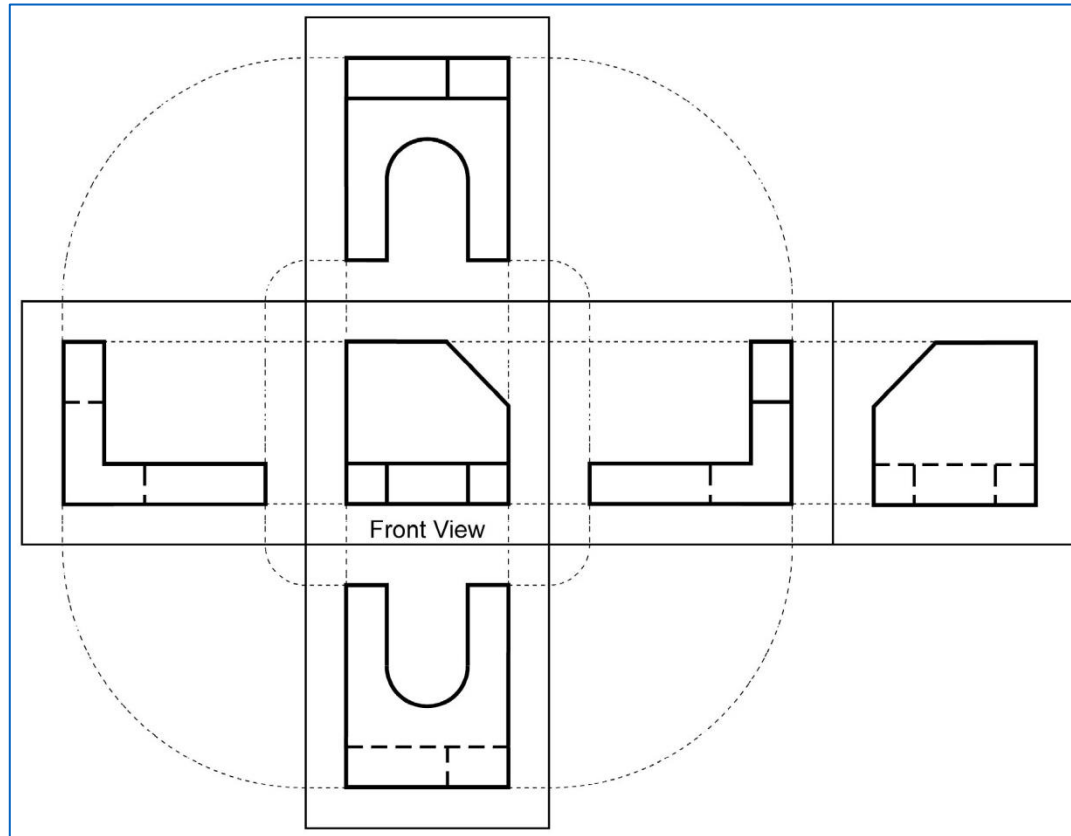




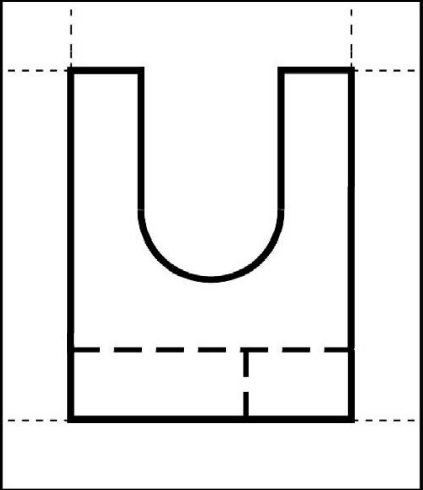
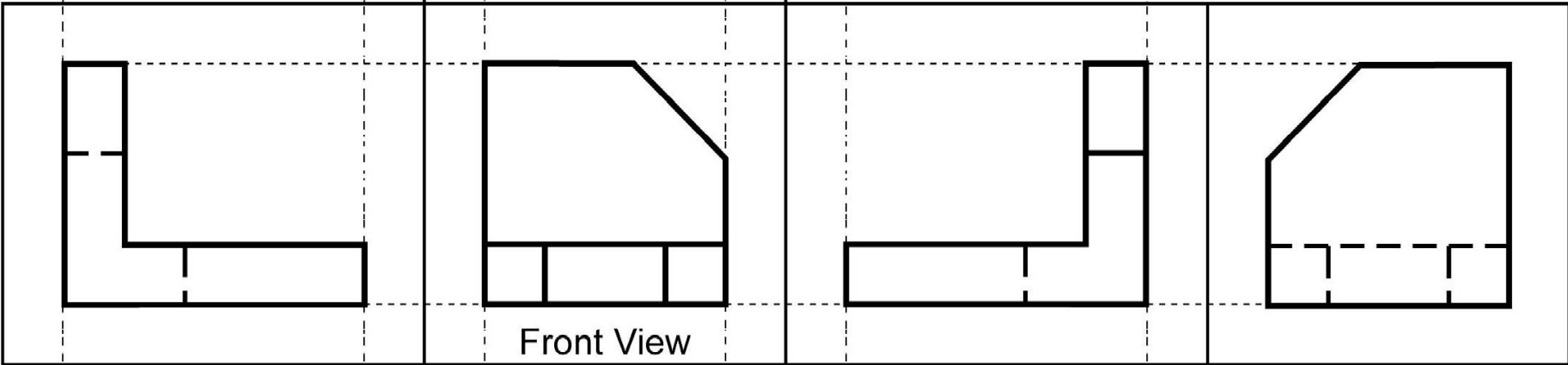
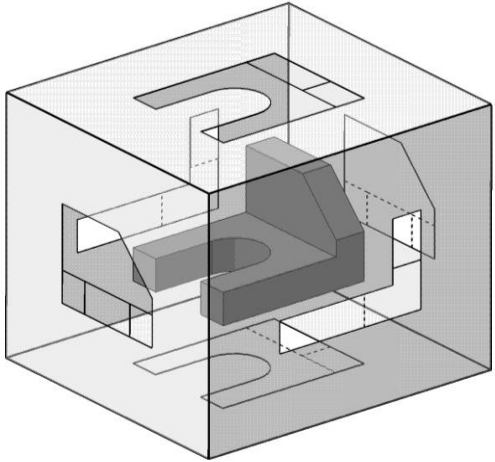
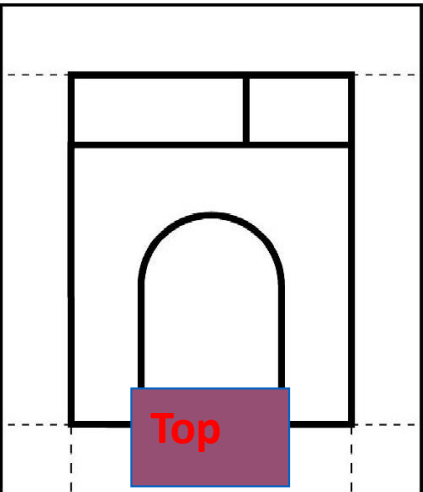
# Exercise 1-1

- Principal Views

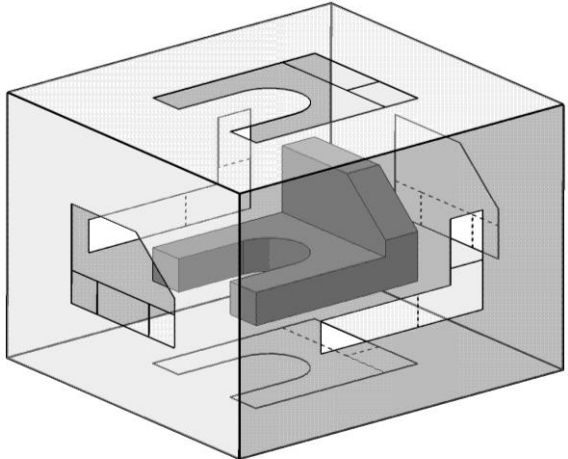
- Label the 5 remaining principal views with the appropriate view name.



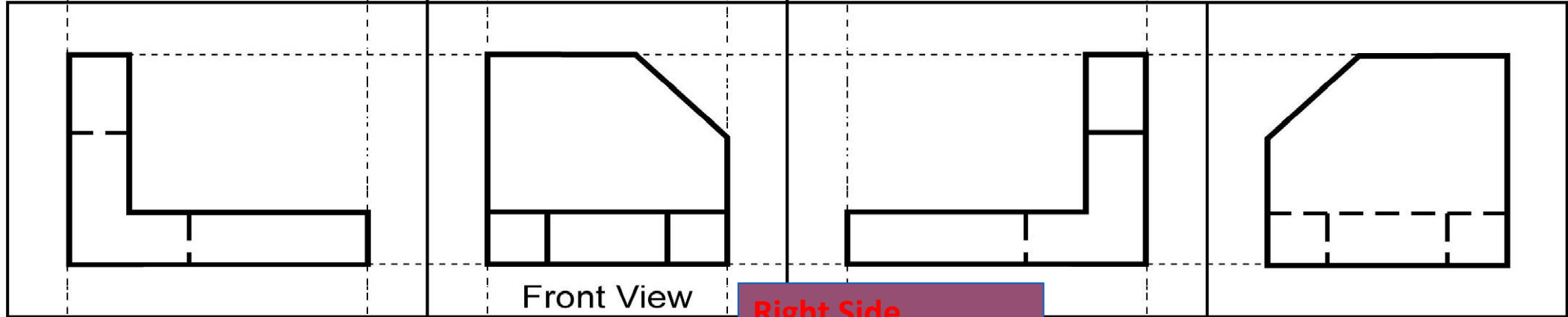
Name each view.



Name each view.

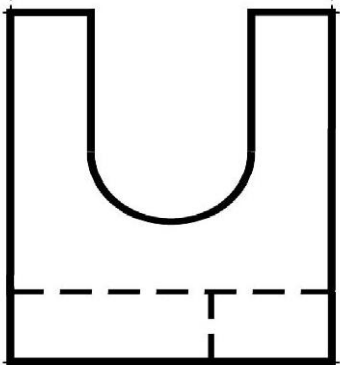


Top

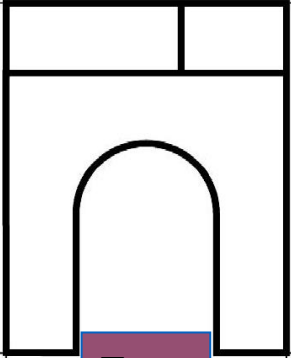
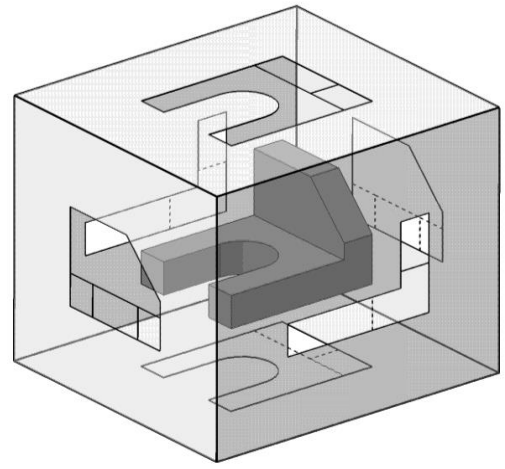


Front View

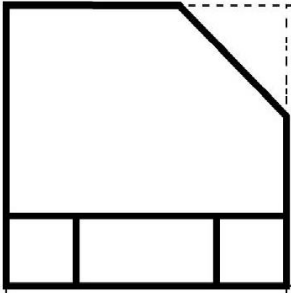
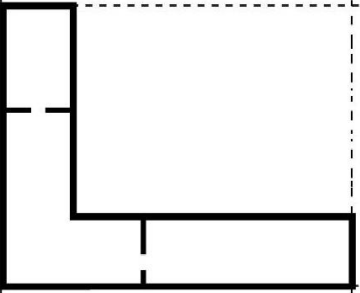
Right Side



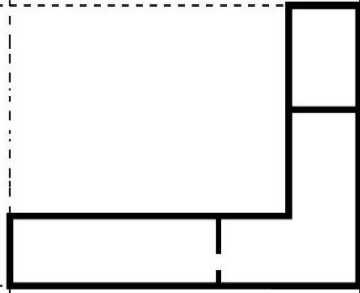
Name each view.



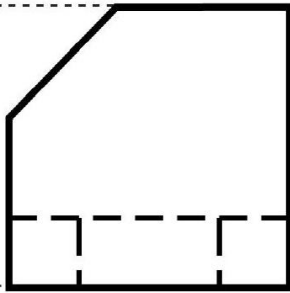
Top



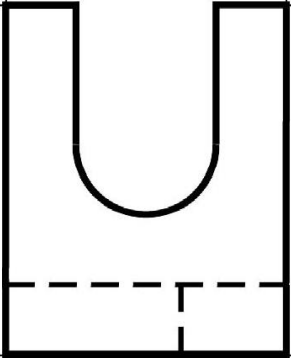
Front View



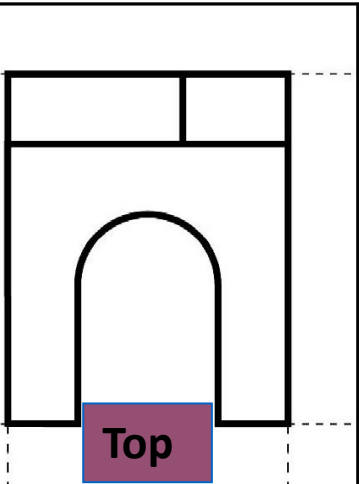
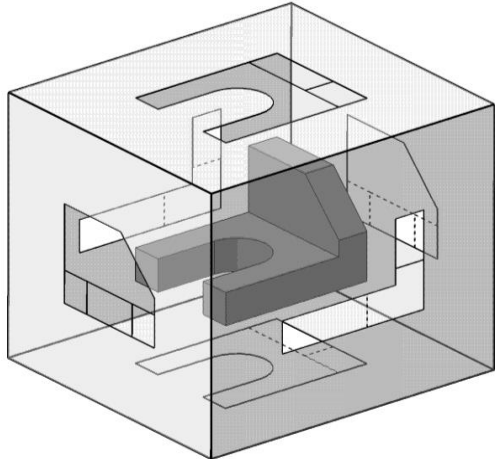
Right Side



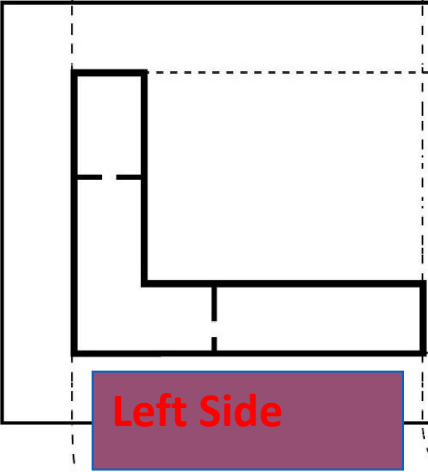
Rear



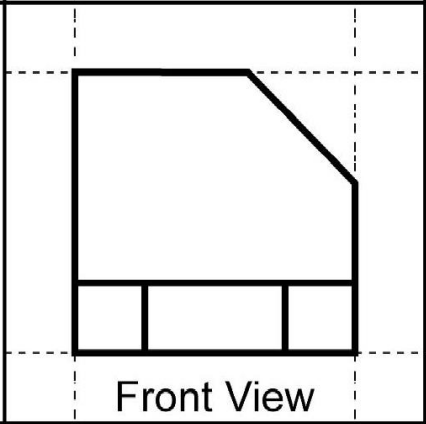
Name each view.



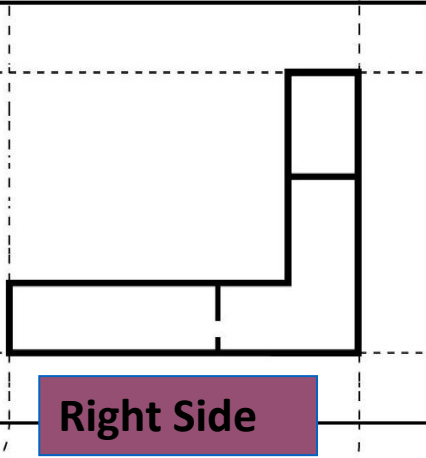
Top



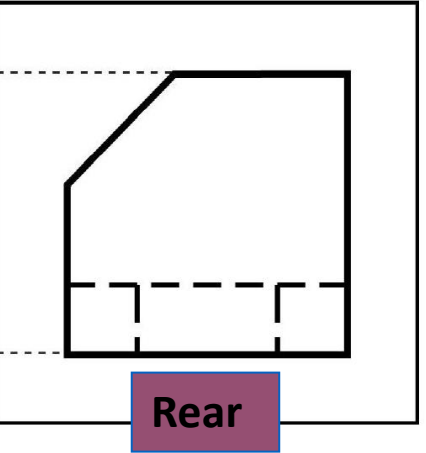
Left Side



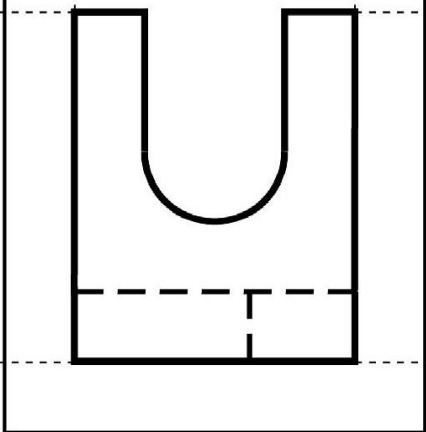
Front View



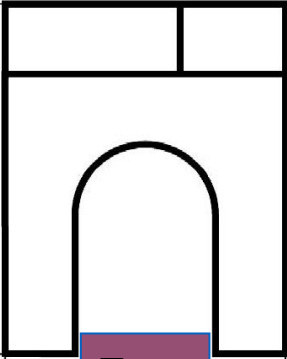
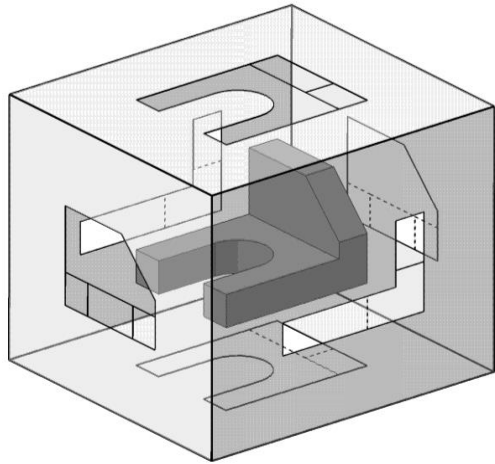
Right Side



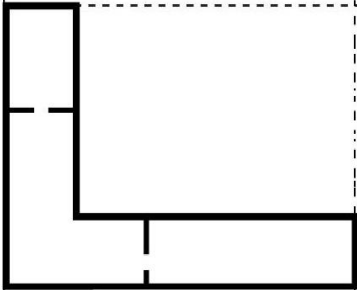
Rear



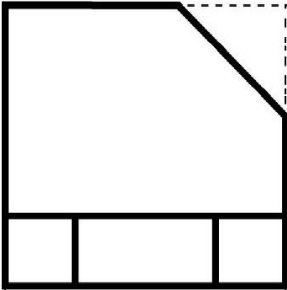
Name each view.



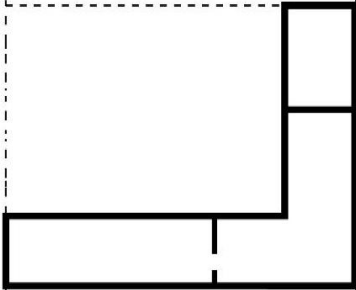
Top



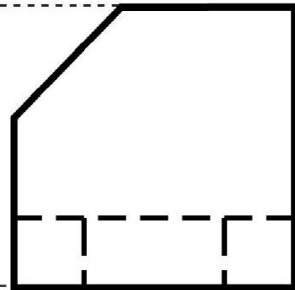
Left Side



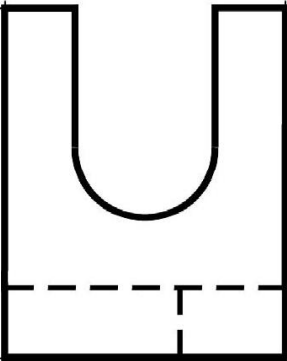
Front View



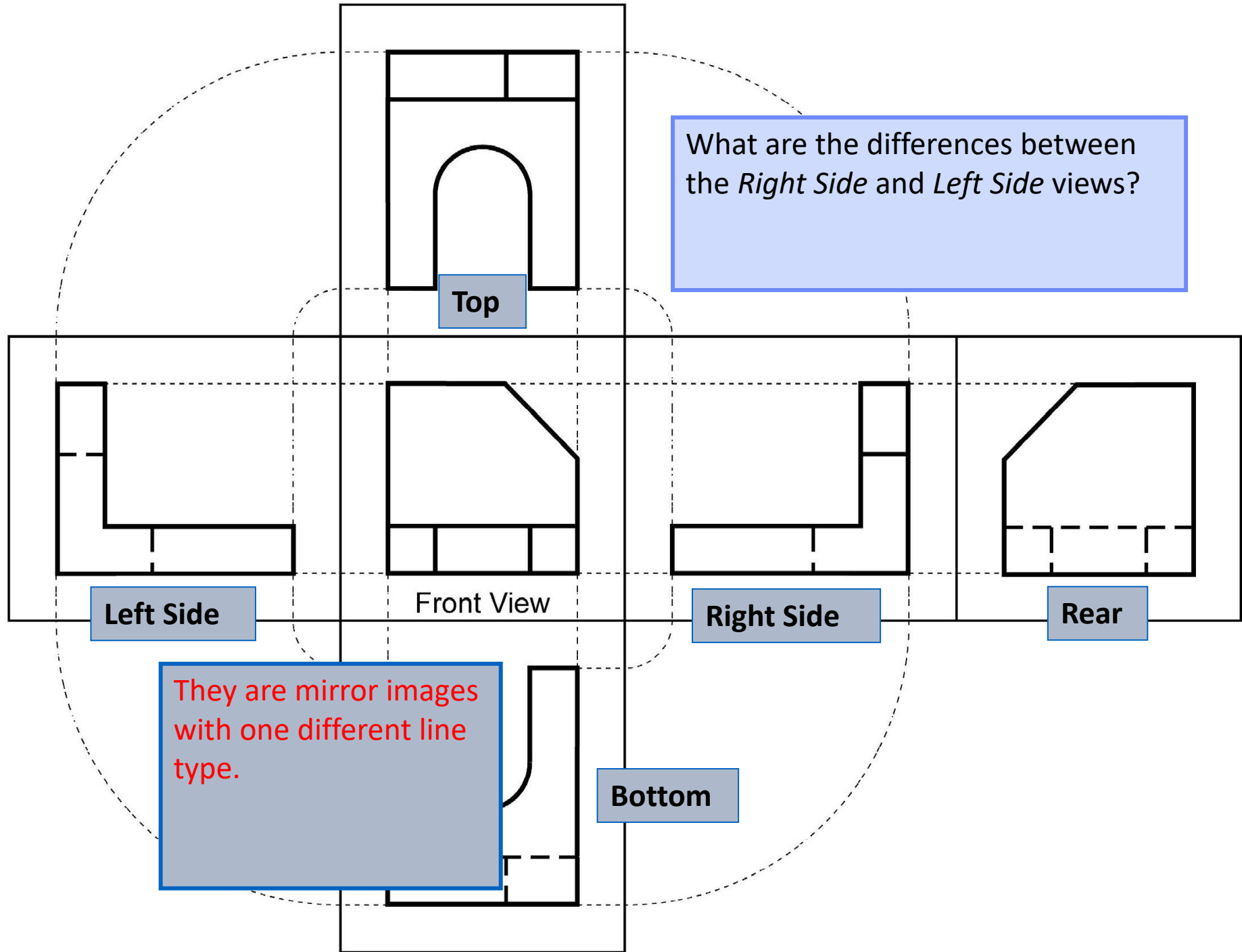
Right Side



Rear



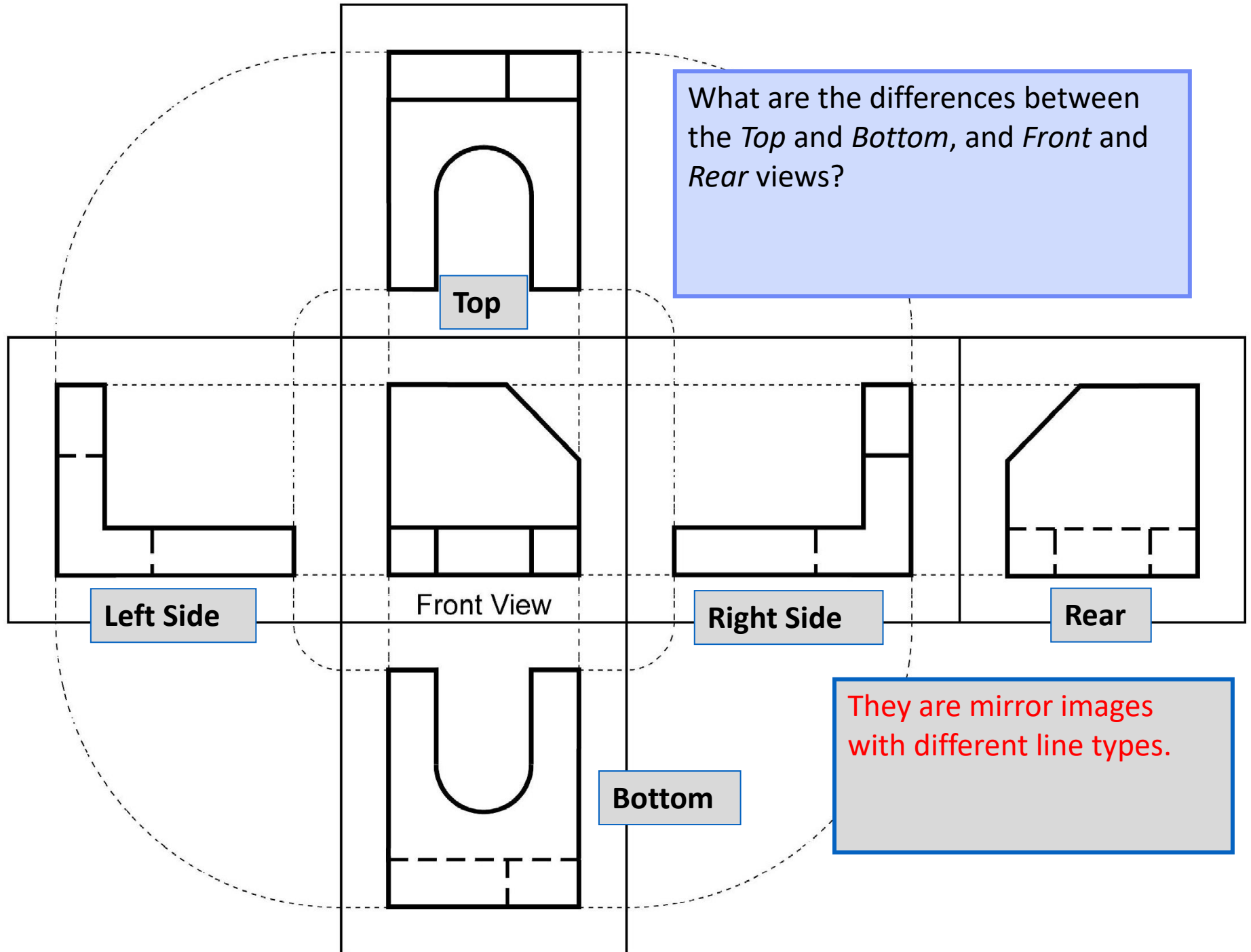
Bottom



What are the differences between the *Right Side* and *Left Side* views?

They are mirror images with one different line type.

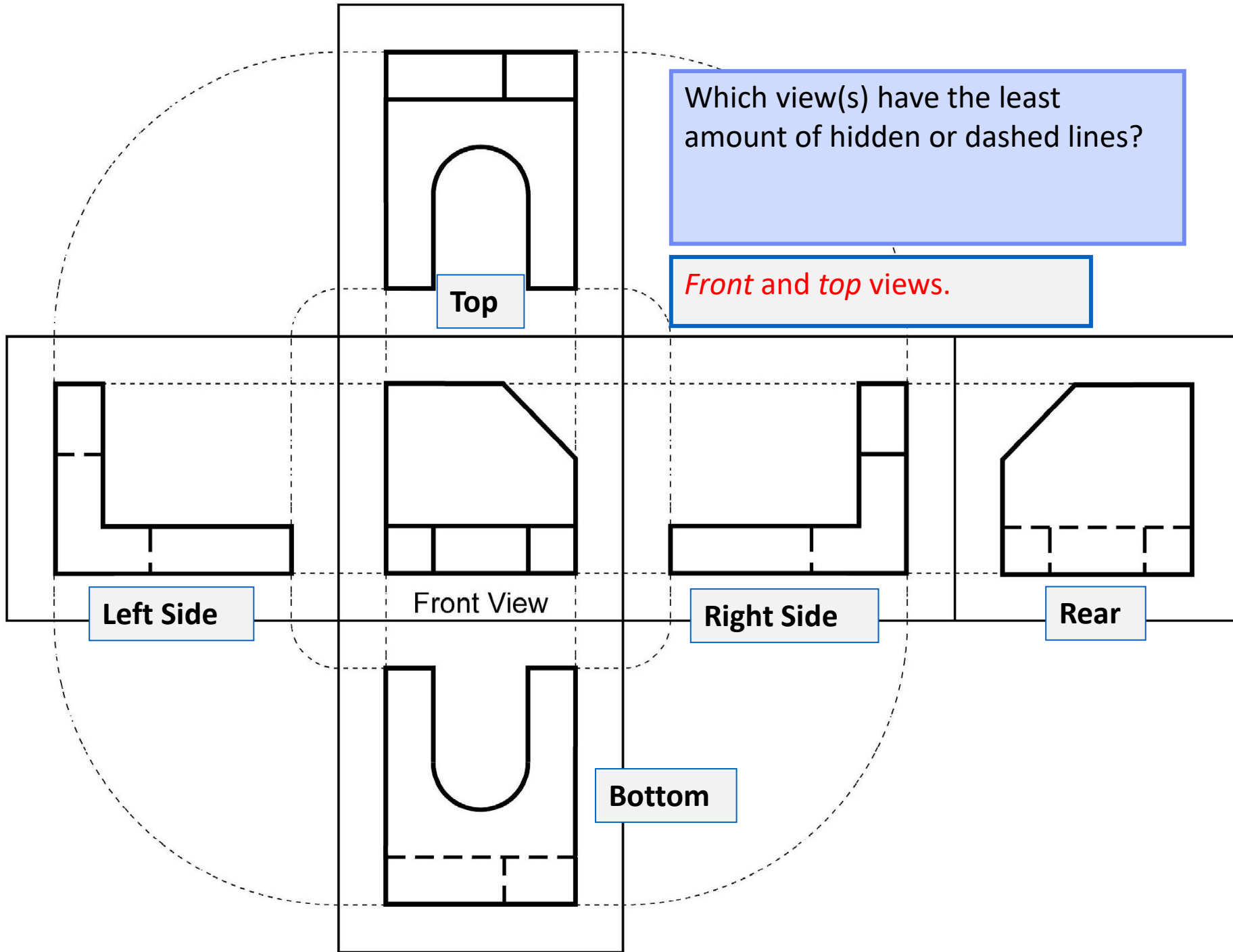
Bottom



What are the differences between the *Top* and *Bottom*, and *Front* and *Rear* views?

They are mirror images with different line types.





Which view(s) have the least amount of hidden or dashed lines?

*Front and top views.*