of the hips and valleys, and direction of slope. If the roof is complicated, this plan may also detail the location of all rafters. Separate, more detailed roof plans are provided by roof truss manufacturers (refer to Chapters 3 and 9 for more detail).

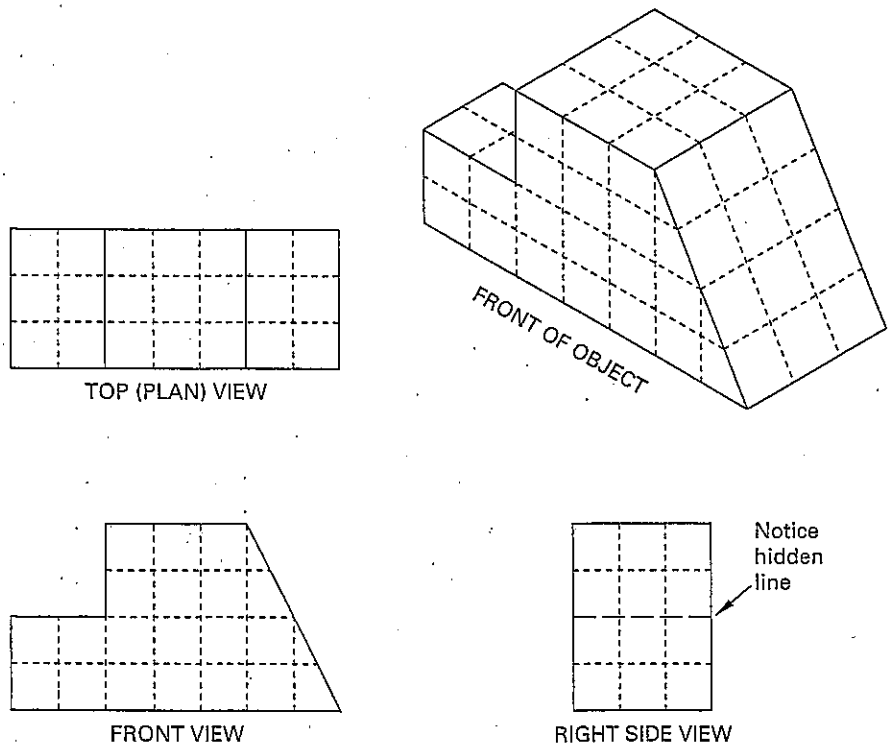
- *Four elevation drawings (front, left, rear, and right sides):* These drawings provide information regarding the exterior finishes, and elevations of walls, floors, doors, and windows (refer to Chapter 3 for more detail).
- *Detail drawings:* These drawings provide more detailed information on any components within the structure that cannot be fully explained or illustrated on the main drawings. For example, the specific requirements of a beam, column, and joist intersection may not be fully understandable from a floor plan, so a detail drawing will be drawn at a larger scale to provide more information so the contractor can construct it as it was designed (refer to Chapter 4 for more detail).
- *Mechanical, plumbing, and electrical drawings:* These drawings may be done separately or may be included in the above floor plans. These drawings provide the information required by the electrical, plumbing, and heating ventilation and air conditioning contractors (HVAC) (refer to Chapter 12 for more detail).

KEY TERMS

Definitions for key terms appear in the glossary at the end of the text.

National Building Code of Canada (NBC) (p. 1)
ICI (p. 2)
Highest and best use (p. 3)
Tender (p. 3)
CAD (p. 3)
Plotter (p. 4)
Architectural rendering (p. 4)
Perspective drawings (p. 4)
Scale (p. 4)
Isometric drawings (p. 5)
Oblique drawings (p. 7)
Orthographic drawings (p. 7)
Visualization (p. 8)

FIGURE 1.23
Example of orthographic projection based on the isometric drawing top right. Notice the orientation of the front, top, and right side views, similar to unfolding a box.



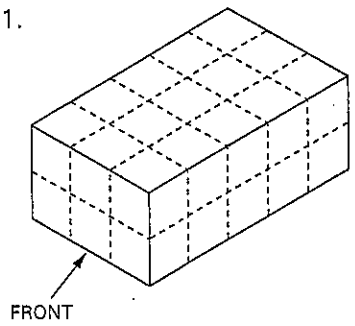
CHAPTER 1 ASSIGNMENT: ORTHOGRAPHIC VIEWS

This assignment will help you understand how a designer takes a three-dimensional object and draws it in orthographic views. You will quickly see that one orthographic view provides limited information about the object but multiple views provide all the necessary information.

From the isometric drawings shown, draw a front view, top view, and right side view. Each cube represents one square on the grid paper; ensure that you orient your views similar to the example provided in Figure 1.23. The front view is located in the bottom left corner, the top view is located in line and directly above the front view, while the right side view is located in line to the right of the front view.

The dashed lines represent the grid squares only, and do not need to be darkened or reproduced, with the exception of the heavy dashed line shown in the right side view. This line is called a hidden line and represents an object line that is hidden below or behind the surface; in this case it represents the indentation that runs from front to back at the rear of the object. You will find hidden lines used extensively in construction drawings.

1.



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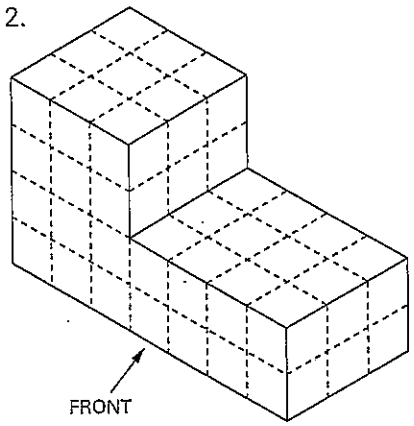

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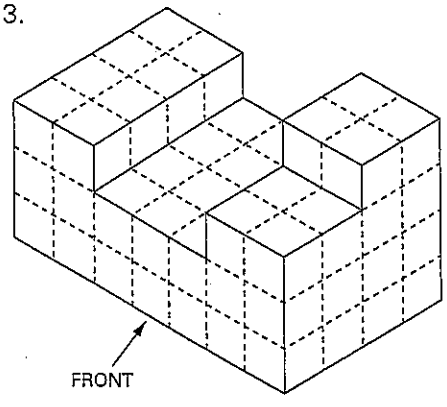

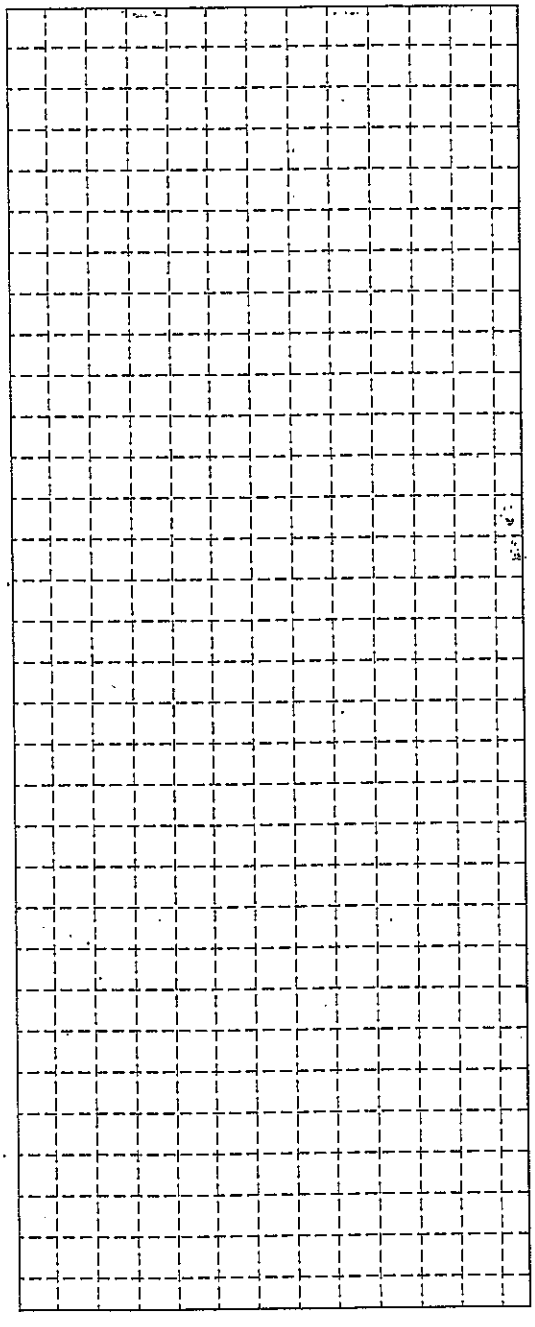

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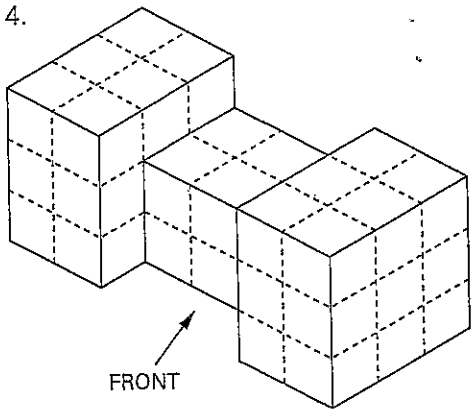

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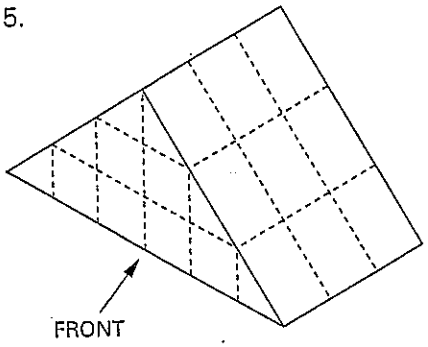

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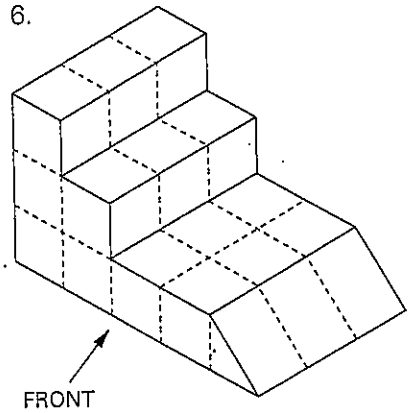

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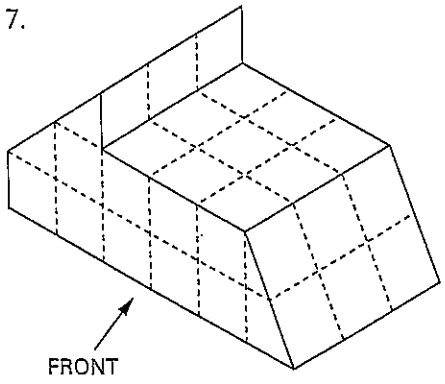

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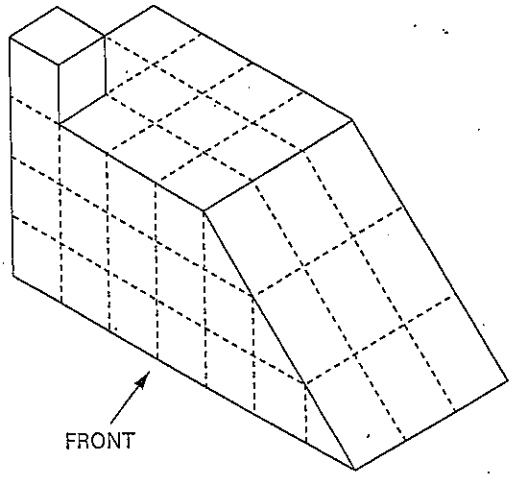

9.