Assessment : Section C Checkpoint

Problem 1

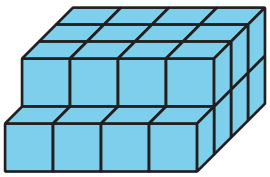
Goals Assessed

- Find the volume of a figure composed of rectangular prisms.

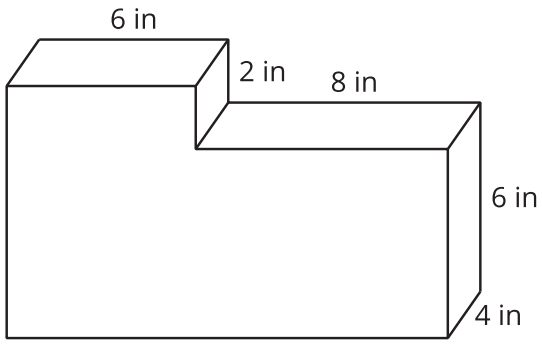
Statement

Find the volume of each figure. Explain or show your reasoning.

a.



b.



Solution

Sample responses:

1. 28 cubic units. Sample response: I cut this figure into a 2 cube by 3 cube by 4 cube rectangular prism that has volume 24 cubic units and there are 4 more cubic units so that's 28 cubic units.
2. 384 cubic inches. Sample response: I can cut this figure into two rectangular prisms. One has side lengths 8 inches by 6 inches by 4 inches and the other is 6 inches by 8 inches by 4 inches. They each have volume $8 \times 6 \times 4$ or 192 cubic inches. The total volume is 384 cubic inches.

Problem 2

Goals Assessed

- Find the volume of a figure composed of rectangular prisms.

Statement

A jewelry box is shaped like a rectangular prism. The base of the box has an area of 200 square centimeters and its height is 6 centimeters. What is the volume of the jewelry box? Explain or show your reasoning.

Solution

1,200 cubic centimeters. I multiplied the area of the base by the height, $200 \times 6 = 1{,}200$.