

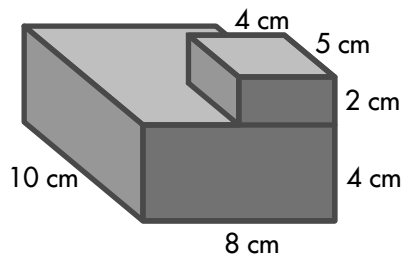


## Additional Practice 11-3

### Combine Volumes of Prisms

#### Another Look!

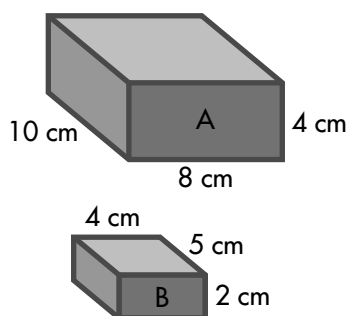
What is the volume of the solid figure?



Make sure you find the  $\ell$ ,  $w$ , and  $h$  of each rectangular prism.



Separate the solid figure into rectangular prisms.



Find the volume of each rectangular prism.

Prism A:

$$V = \ell \times w \times h$$

$$V = 8 \times 10 \times 4$$

$$V = 80 \times 4$$

$$V = 320$$

Prism B:

$$V = \ell \times w \times h$$

$$V = 4 \times 5 \times 2$$

$$V = 20 \times 2$$

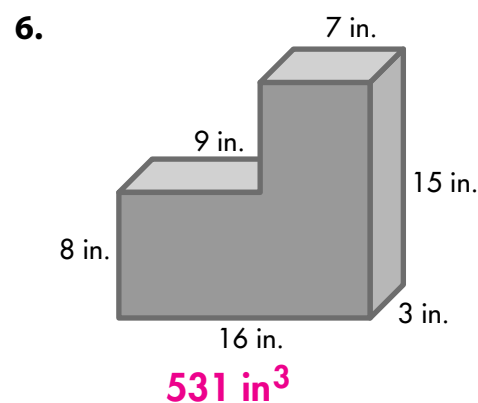
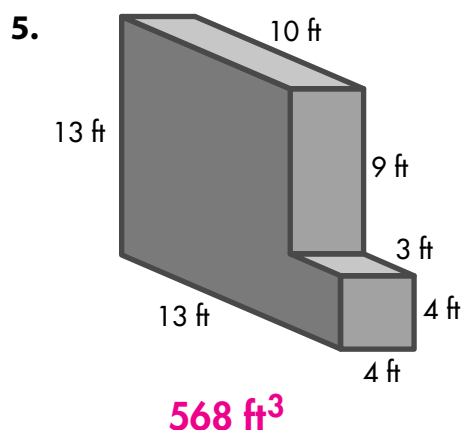
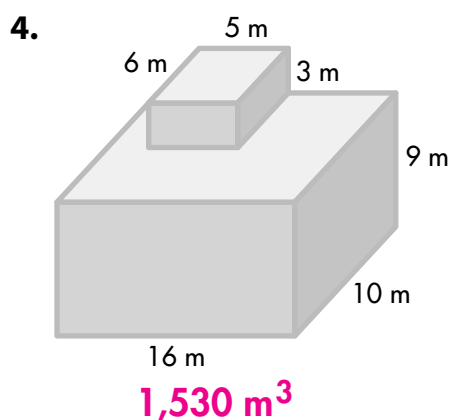
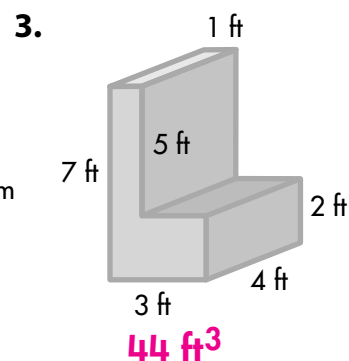
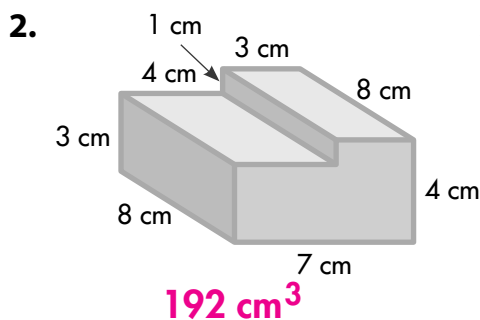
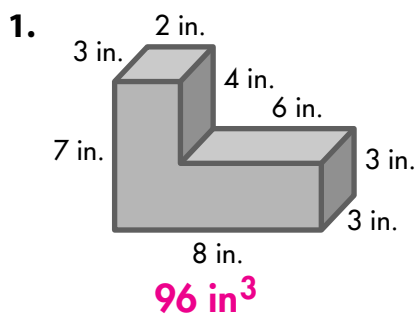
$$V = 40$$

Add the volumes.

$$320 + 40 = 360$$

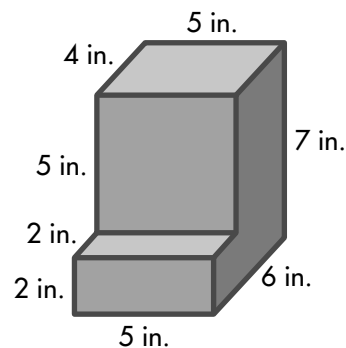
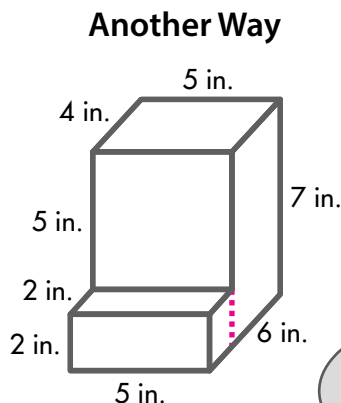
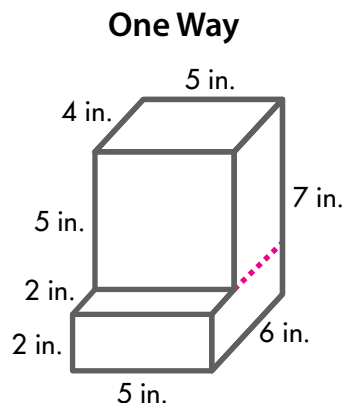
So, the volume of the solid figure is  $360 \text{ cm}^3$ .

In 1–6, find the volume of each solid figure.



In 7 and 8, use the drawing of the solid figure.

7. Find two different ways to separate the solid figure into two rectangular prisms. Draw a line on each figure below to show each way.



8. **Model with Math** Choose one way that you found. Write and solve an equation for the volume of each rectangular prism. Then find the volume of the solid figure.

**160 cubic inches; Sample answer:  $5 \times 6 \times 2 = 60$  and  $5 \times 4 \times 5 = 100$ ;  $60 + 100 = 160$**

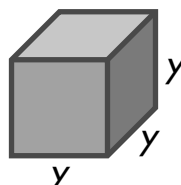
How can you find the dimensions of the two smaller solids?



9. **Higher Order Thinking** Ashley is stacking two boxes on a shelf. The bottom box measures 6 inches long, 5 inches wide, and 5 inches high. The top box is a cube with one edge measuring 4 inches. What is the volume of this stack? Explain.

**214 cubic inches; Sample answer: Bottom box:  $6 \times 5 \times 5 = 150$ . Top box:  $4 \times 4 \times 4 = 64$ . Add  $150 + 64 = 214$ .**

10. **Algebra** Write an expression you can use to find the volume of the cube. Then find the volume if  $y = 9$  feet.



**$y \times y \times y$ ;  $729 \text{ ft}^3$**



### Assessment Practice

11. Paul wants to build this model with clay, but he does not know how much clay to purchase. A horizontal line separates the model into two rectangular prisms. Write an expression for the volume of the model.

**$(9 \times 5 \times 3) + (5 \times 5 \times 4)$**

