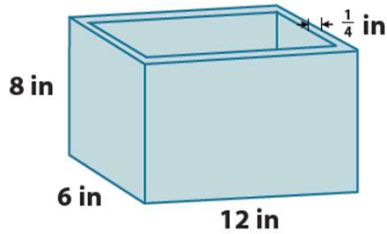


## Prism Word Problems Worksheets

1. A box in the shape of a right rectangular prism has a length of  $12\text{ in}$ , a width of  $6\text{ in}$ , and a height of  $8\text{ in}$ . The base and the walls of the container are  $\frac{1}{4}\text{ in}$  thick, and its top is open. What is the capacity of the right rectangular prism?

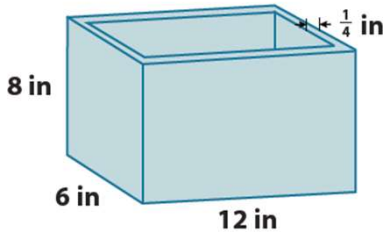
(Hint: The capacity is equal to the volume of water needed to fill the prism to the top)



## Prism Word Problems Worksheets

1. A box in the shape of a right rectangular prism has a length of  $12\text{ in}$ , a width of  $6\text{ in}$ , and a height of  $8\text{ in}$ . The base and the walls of the container are  $\frac{1}{4}\text{ in}$  thick, and its top is open. What is the capacity of the right rectangular prism?

(Hint: The capacity is equal to the volume of water needed to fill the prism to the top)



If the prism is filled with water, the water will take the shape of a right rectangular prism slightly smaller than the container. The dimensions of the smaller prism are a length of  $11\frac{1}{2}\text{ in}$ , a width of  $5\frac{1}{2}\text{ in}$ , and a height of  $7\frac{3}{4}\text{ in}$ .

$$V = Bh$$

$$V = (lw)h$$

$$V = \left(11\frac{1}{2}\text{ in} \cdot 5\frac{1}{2}\text{ in}\right) \cdot 7\frac{3}{4}\text{ in}$$

$$V = \left(\frac{23}{2}\text{ in} \cdot \frac{11}{2}\text{ in}\right) \cdot \frac{31}{4}\text{ in}$$

$$V = \left(\frac{253}{4}\text{ in}^2\right) \cdot \frac{31}{4}\text{ in}$$

$$V = \frac{7843}{16}\text{ in}^3$$

$$V = 490\frac{3}{16}\text{ in}^3$$

The capacity of the right rectangular prism is  $490\frac{3}{16}\text{ in}^3$ .