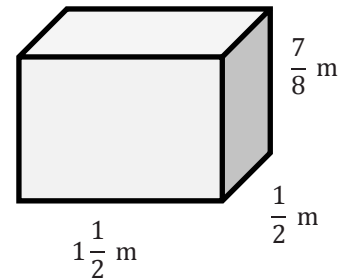


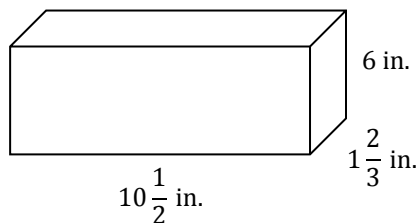
Problem Set

1. Determine the volume of the rectangular prism.



2. The area of the base of a rectangular prism is $4\frac{3}{4}$ ft², and the height is $2\frac{1}{3}$ ft. Determine the volume of the rectangular prism.
3. The length of a rectangular prism is $3\frac{1}{2}$ times as long as the width. The height is $\frac{1}{4}$ of the width. The width is 3 cm. Determine the volume.

4.

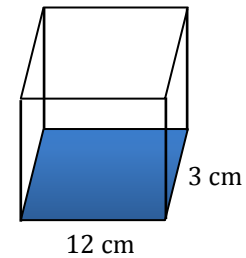


- a. Write numerical expressions to represent the volume in two different ways, and explain what each reveals.
- b. Determine the volume of the rectangular prism.
5. An aquarium in the shape of a rectangular prism has the following dimensions: length = 50 cm, width = $25\frac{1}{2}$ cm, and height = $30\frac{1}{2}$ cm.
- a. Write numerical expressions to represent the volume in two different ways, and explain what each reveals.
- b. Determine the volume of the rectangular prism.

6. The area of the base in this rectangular prism is fixed at 36 cm^2 . As the height of the rectangular prism changes, the volume will also change as a result.

a. Complete the table of values to determine the various heights and volumes.

Height of Prism (in centimeters)	Volume of Prism (in cubic centimeters)
2	72
3	108
	144
	180
6	
7	
	288



- b. Write an equation to represent the relationship in the table. Be sure to define the variables used in the equation.
- c. What is the unit rate for this proportional relationship? What does it mean in this situation?
7. The volume of a rectangular prism is 16.328 cm^3 . The height is 3.14 cm .
- a. Let B represent the area of the base of the rectangular prism. Write an equation that relates the volume, the area of the base, and the height.
- b. Solve the equation for B .