1. Each rectangular prism is built from centimeter cubes. State the dimensions, and find the volume.

a. 

Length: \( \underline{5} \) cm  
Width: \( \underline{2} \) cm  
Height: \( \underline{2} \) cm  
Volume: \( \underline{20} \) cm\(^3\)

b. 

Length: \( \underline{3} \) cm  
Width: \( \underline{2} \) cm  
Height: \( \underline{4} \) cm  
Volume: \( \underline{24} \) cm\(^3\)

c. 

Length: \( \underline{4} \) cm  
Width: \( \underline{2} \) cm  
Height: \( \underline{4} \) cm  
Volume: \( \underline{32} \) cm\(^3\)

d. 

Length: \( \underline{4} \) cm  
Width: \( \underline{3} \) cm  
Height: \( \underline{3} \) cm  
Volume: \( \underline{36} \) cm\(^3\)

2. Write a multiplication sentence that you could use to calculate the volume for each rectangular prism in Problem 1. Include the units in your sentences.

a. \( 5\text{cm} \times 2\text{cm} \times 2\text{cm} = 20\text{cm}^3 \)

b. \( 3\text{cm} \times 2\text{cm} \times 4\text{cm} = 24\text{cm}^3 \)

c. \( 4\text{cm} \times 2\text{cm} \times 4\text{cm} = 32\text{cm}^3 \)

d. \( 4\text{cm} \times 3\text{cm} \times 3\text{cm} = 36\text{cm}^3 \)
3. Calculate the volume of each rectangular prism. Include the units in your number sentences.

a. 
\[ V = 4\text{in} \times 3\text{in} \times 4\text{in} = 48\text{in}^3 \]

b. 
\[ V = 3\text{m} \times 2\text{m} \times 6\text{m} = 36\text{m}^3 \]

4. Tyron is constructing a box in the shape of a rectangular prism to store his baseball cards. It has a length of 10 centimeters, a width of 7 centimeters, and a height of 8 centimeters. What is the volume of the box?

\[ V = 10\text{cm} \times 8\text{cm} \times 7\text{cm} = 560\text{cm}^3 \]

The volume is 560 cubic cm.

5. Aaron says more information is needed to find the volume of the prisms. Explain why Aaron is mistaken, and calculate the volume of the prisms.

a. 
\[ V = 60\text{cm}^2 \times 5\text{cm} = 300\text{cm}^3 \]

b. 
\[ V = 20\text{in}^2 \times 12\text{in} = 240\text{in}^3 \]

He does not need more information, because I can take the area of a layer and multiply it by the number of layers.

\[ V = (l \times w) \times h \rightarrow (l \times w) = \text{Area}, \ h = \text{layers} \]