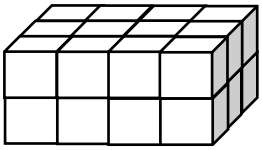
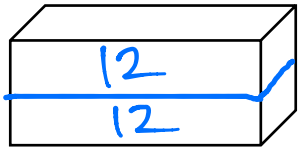
Name _____ Date _____

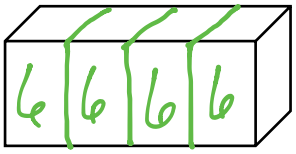
1. Use the prisms to find the volume.

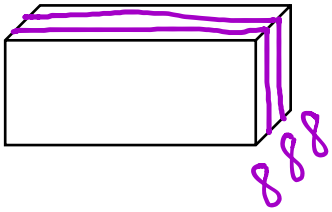
- The rectangular prisms pictured below were constructed with 1-cm cubes
- Decompose each prism into layers in three different ways, and show your thinking on the blank prisms.
- Complete each table

Number of Layers	Number of Cubes in Each Layer	Volume of the Prism
2	12	24 cubic cm
4	6	24 cubic cm
3	8	24 cubic cm

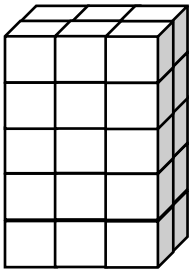


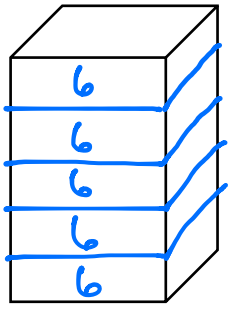


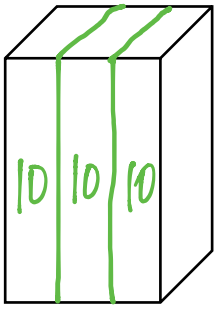


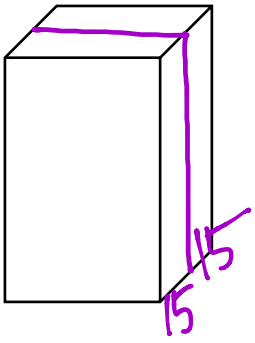


Number of Layers	Number of Cubes in Each Layer	Volume of the Prism
5	6	30 cubic cm
3	10	30 cubic cm
2	15	30 cubic cm

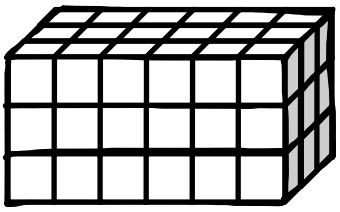








2. Stephen and Chelsea want to increase the volume of this prism by 72 cubic centimeters. Chelsea wants to add eight layers and Stephen says they only need to add four layers. Their teacher tells them they are both correct. Explain how this is possible.



Chelsea sees the 9 cubes at the end of the prism as a layer.

$9 \times 8 = 72$

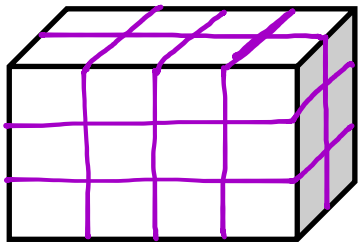
Stephen sees the 18 cubes at the top of the prism as a layer.

$18 \times 4 = 72$

3. Juliana makes a prism 4 inches across and 4 inches wide, but only 1 inch tall. She then decides to create layers equal to her first one. Fill in the chart below and explain how you know the volume of each new prism.

Number of Layers	Volume	Explanation
3	$48\ in^3$	Each layer has 16 cubes, so 3 layers is $3 \times 16 in^3$
5	$80\ in^3$	5 layers with each layer being $16 in^3$. $5 \times 16 in^3 = 80\ in^3$
7	$112\ in^3$	1 layer is $16 in^3$, so $7 \times 16 in^3 = 112 in^3$

4. Imagine the rectangular prism below is 4 meters long, 3 meters tall, and 2 meters wide. Draw horizontal lines to show how the prism could be decomposed into layers that are 1 meter in height.



It has 4 layers from left to right.

Each layer contains 6 cubic units.

The volume of this prism is $24\ m^3$.