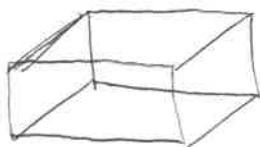Name_____Date_____

VOLUME IS CAPACITY

1. How do you determine the volume of a rectangular prism?

   $V = length \times width \times height$

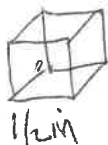2. Draw a rectangular prism below and label the length, width, and height.

3. How do you determine the volume of any prism?

   $V = Base \times height$

4. What does B represent?

   The area of the bottom layer.

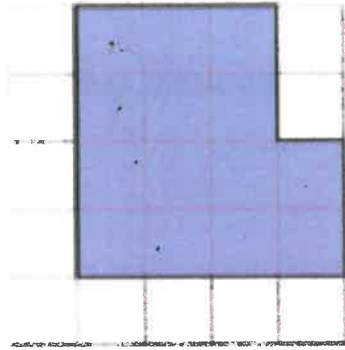5. Draw a cube below with an edge length of ½ inch.

   1/2 in

6. Find the volume of the cube drawn in #5. Convince me by showing all of your thinking below.

   $V = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$

   The volume of the cube is $\frac{1}{8}$ in³.

7. Imagine the figure below is 5 ½ units high. Find its volume. *Convince me by creating a proof of your solution by using drawings, numbers, arrows, calculations, and/or other features that make your reasoning clear and convincing.*
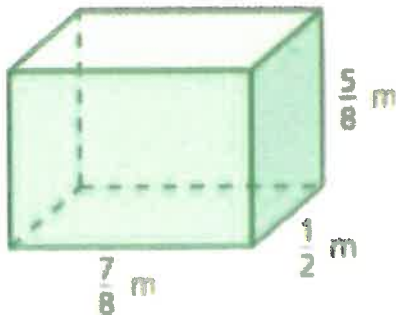
Area of Base = 14 square units

Volume = $14 \times 5\frac{1}{2}$

$= \frac{14}{1} \times \frac{11}{2} = 77$

The volume is 77 cubic units.

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8. Find the volume of the rectangular prism below. Convince me by showing all of your thinking.

$\frac{5}{8}$ m

$\frac{1}{2}$ m

$\frac{7}{8}$ m

Volume $= \frac{7}{8} \times \frac{1}{2} \times \frac{5}{8}$

$= \frac{35}{128}$

The volume is $\frac{35}{128}$ m³.