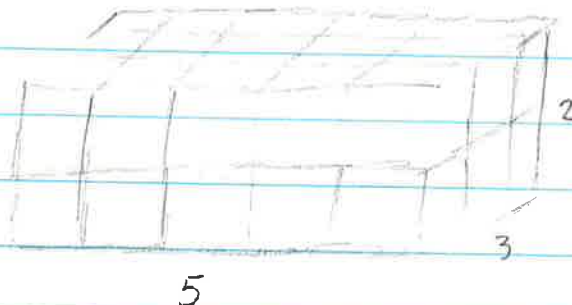


CDC Writing Prompt:

Michael says to find the volume of a rectangular prism you just count the cubes. Sam says you use the formula $l \times w \times h$ to find the volume. Who is correct? Explain your reasoning.



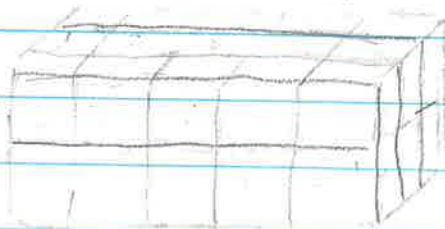
CLAIM:

Michael and Sam are both correct. They both have valid ways of solving the problem, but they did them different. This is how they solved them.

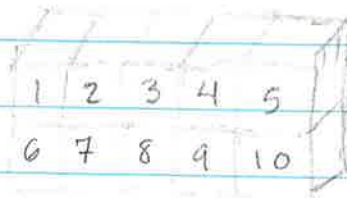
DATA:

MICHAEL:

1.)



Take out the
back layer



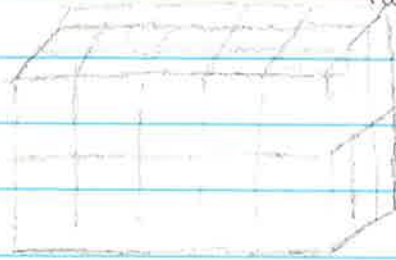
CDC Writing
DATA:

MICHAEL:

There are 3 layers
so you can use
multiply the first
layer by 3

$$\begin{array}{r} \text{1st layer: } 10 \\ \times 3 \text{ layers} \\ \hline 30 \end{array}$$

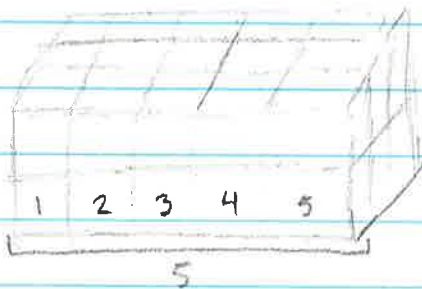
2.)



MICHAEL'S ANSWER: 30 units³

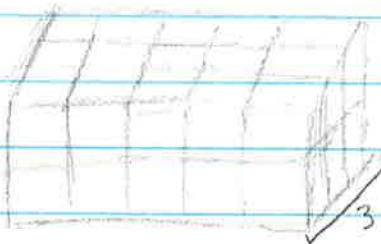
SAM:

1.)



lwh
length

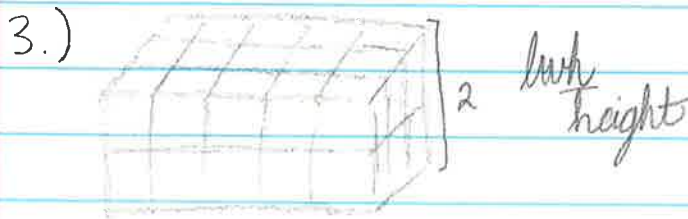
2.)



lwh
width

CDC Writing DATA:

SAM:



4.) $V = lwh$
 $V = 5 \times 3 \times 2 = 30$

SAM'S ANSWER: 30 units³

COMMENTARY:

MICHAEL:

First as shown in the data, Michael counted out the first layer of the shape. The first layer would be the front side of the cube, which has 10 cubes on it. Then if you count the top, you will see that there are 3^{identical} layers to the shape, meaning that you just have to multiply the first layer by 3. $10 \text{ cubes} \times 3 \text{ layers} = 30 \text{ cubes}^3$. That is how Michael solved his problem.

CDC Writing COMMENTARY:

SAM:

First as shown in the data, Sam looked at the length of the shape. The length of a shape is the amount of units on the front side of the shape going horizontally. There are 5 cubes so the length = 5. Then he looked at the width, which is the amount of units on the side of the shape going horizontally. There are 3 cubes so the width = 3. Lastly he looked at the height, which is the amount of units on the front of the shape going vertically. There are 2 cubes so the height = 2. The formula for volume is $V = lwh$. V = volume, l = length, w = width, h = height. If you enter the numbers into the formula you would get $V = 5 \times 3 \times 2$. If you solved the formula you would get $V = 30$ units³. That is how Sam solved his problem.