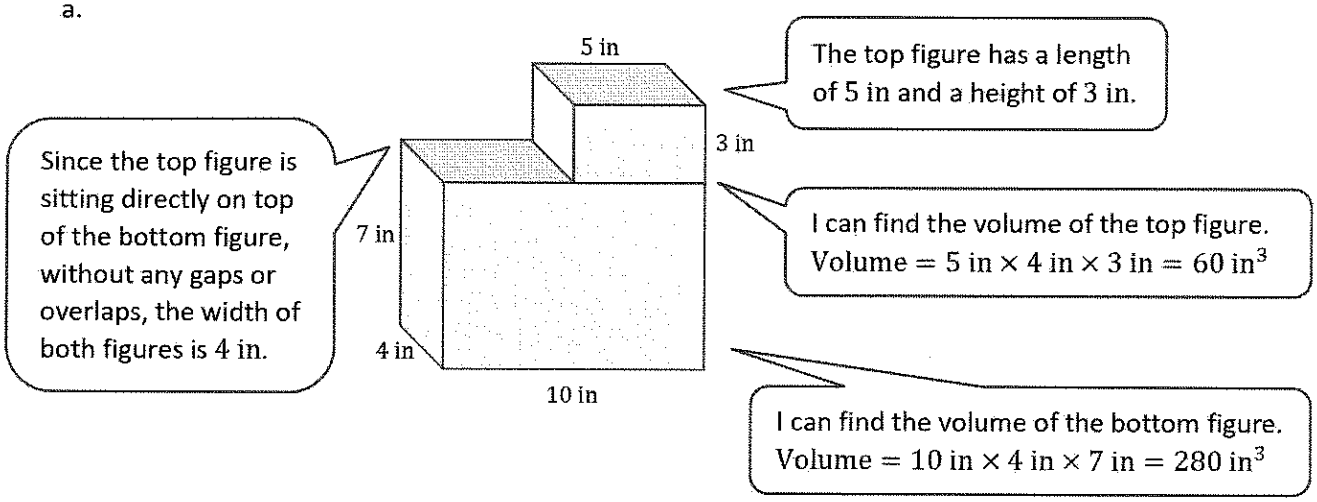
G5-M5-Lesson 6

1. Find the total volume of the figures, and record your solution strategy.

   a.



Volume: 340 in^3

I will add both figures' volumes together. $60 \text{ in}^3 + 280 \text{ in}^3 = 340 \text{ in}^3$

Solution Strategy:

I found the top figure's volume, 60 in^3, and the bottom figure's volume, 280 in^3. Then, I added both volumes together to get a total of 340 in^3.

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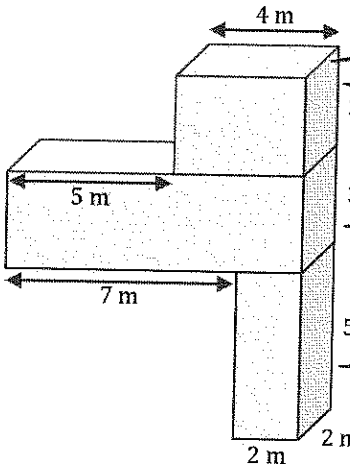
b.



All three figures have the same width of 2 m.

I can find the volume for the top figure.
Volume $= 4\text{ m} \times 2\text{ m} \times 3\text{ m} = 24\text{ m}^3$

Volume $= 9\text{ m} \times 2\text{ m} \times 3\text{ m} = 54\text{ m}^3$

Volume $= 2\text{ m} \times 2\text{ m} \times 5\text{ m} = 20\text{ m}^3$

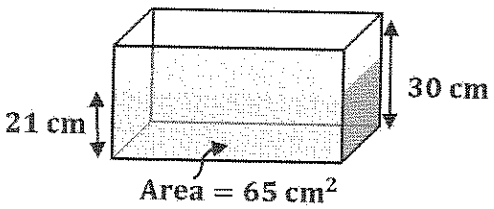
Volume: 98 m^3

I add all three figures' volumes together.
$24\text{ m}^3 + 54\text{ m}^3 + 20\text{ m}^3 = 98\text{ m}^3$

Solution Strategy:

I found the top figure's volume, 24 m^3, the middle figure's volume, 54 m^3, and the bottom figure's volume, 20 m^3. Then, I added all three volumes together to get a total of 98 m^3.

2. A fish tank has a base area of 65 cm^2 and is filled with water to a depth of 21 cm. If the height of the tank is 30 cm, how much more water will be needed to fill the tank to the brim?



I label the rectangular prism with all the given information.

$30\text{ cm} - 21\text{ cm} = 9\text{ cm}$

I can find the height of the tank that is without water. It is 9 cm.

$65\text{ cm}^2 \times 9\text{ cm} = 585\text{ cm}^3$

I can find the volume of the empty tank by multiplying the area of the base times the height, 9 cm.

$$\begin{array}{r} 6\ 5 \\ \times\quad 9 \\ \hline 5\ 8\ 5 \end{array}$$

$1\text{ cm}^3 = 1\text{ mL}$
$585\text{ cm}^3 = 585\text{ mL}$

585 mL of water will be needed to fill the tank to the brim.

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