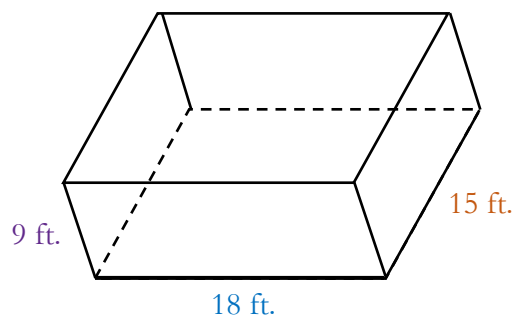


Rachel needs to paint a room in her house.
 Damien and Sydney help figure out how much of the room she is going to paint.



Damien's "Surface Area" Method

I need to find the surface area of the room.

$$SA = 2lw + 2lh + 2wh$$

I cross $2lw$ out because I'm not painting the floor or the ceiling.

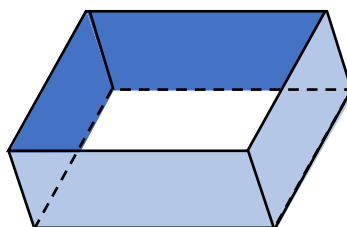
$$SA = 2\cancel{lw} + 2lh + 2wh$$

I substitute the values into the formula and calculate.

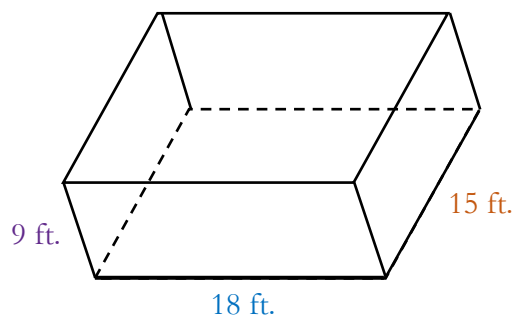
$$SA = 2(18)(9) + 2(15)(9)$$

$$SA = 594 \text{ ft.}^2$$

The walls are covered with paint!



**Rachel needs to paint a room in her house.
Damien and Sydney help figure out how much of the room she is going to paint.**

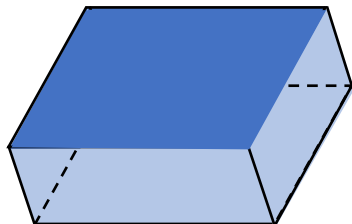


Sydney's "Volume" Method

$$V = lwh$$

$$V = (18)(15)(9)$$

$$V = 2,430 \text{ ft.}^3$$



I need to find the volume of the room.

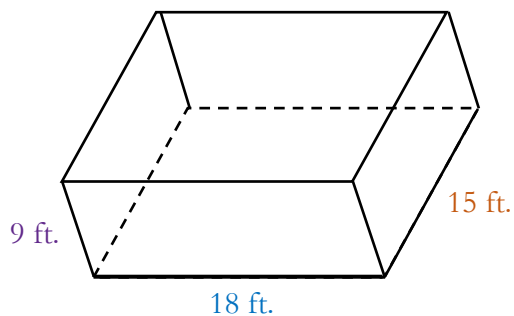
I substitute the values into the formula and calculate.

The whole room is filled with paint!



Rachel needs to paint a room in her house.

Damien and Sydney help figure out how much of the room she is going to paint.



Damien's "Surface Area" Method

I need to find the surface area of the room.

I cross $2lw$ out because I'm not painting the floor or the ceiling.

I substitute the values into the formula and calculate.

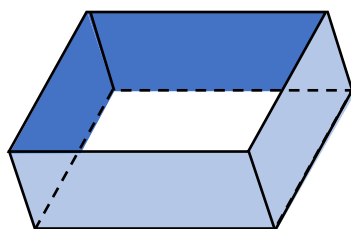
The walls are covered with paint!

$$SA = 2lw + 2lh + 2wh$$

$$SA = \cancel{2lw} + 2lh + 2wh$$

$$SA = 2(18)(9) + 2(15)(9)$$

$$SA = 594 \text{ ft.}^2$$



Sydney's "Volume" Method

I need to find the volume of the room.

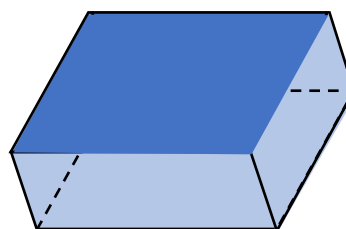
I substitute the values into the formula and calculate.

The whole room is filled with paint!

$$V = lwh$$

$$V = (18)(15)(9)$$

$$V = 2,430 \text{ ft.}^3$$



V.1: *Surface Area vs. Volume*

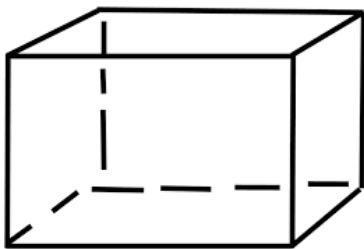
1) What are the similarities and differences between Damien and Sydney's methods?

Similarities	Differences

2) Who best helped Rachel paint the walls of the room? How do you know?

3) Describe the differences between surface area and volume.

4) How much wrapping paper would you need to wrap a box that is 15 in. long, 7 in. wide, and 10 in. tall?

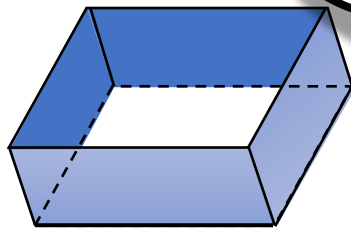


Damien and Rachele are going to paint.

Wow! I never thought about the practical differences between surface area and volume before, but seeing Damien's method, I see that finding the surface area only paints the surfaces of the room, while finding the volume would fill the entire room with paint. That's just silly!

I substitute the values into the formula and calculate.

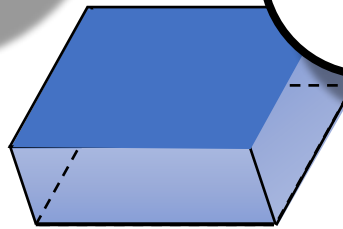
$$SA = 594 \text{ ft.}^2$$



The walls are covered with paint!

$$= (18)(18)(9)$$

$$= 2,430 \text{ ft.}^3$$



I substitute the values into the formula and calculate.

The whole room is filled with paint!

