



Each of you have been given a different model made from blocks.

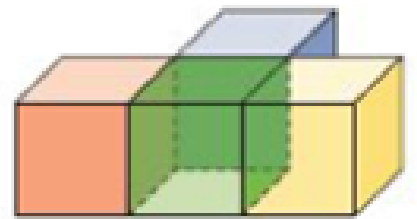
Using a piece of graph paper, make a 2D drawing of the front, back, top, bottom, left side, and right side of your model.

Tips to make it easier:

- Make your drawing so that one square on the graph paper equals one block
- You may write "front", "back" etc on your model as long as you erase it after

When finished, assume one face of each cube has an area of 1 unit² and calculate the surface area of the model you were given.

of blocks = 4
of sides per block = 6

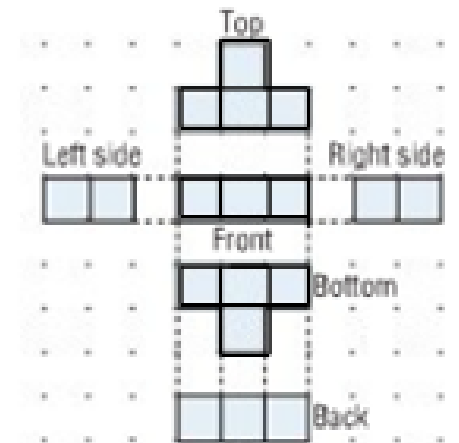


Total # of sides = $4 \times 6 = 24$

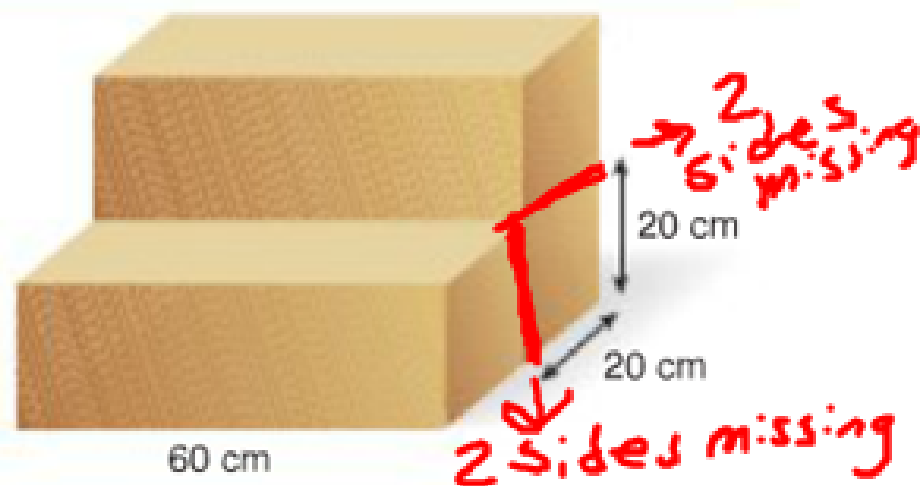
of sides in drawing = 18

Why?

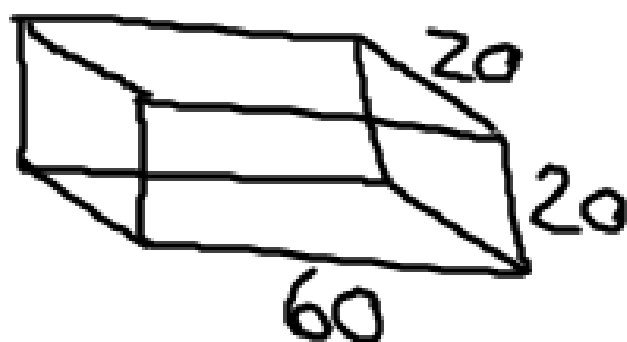
Some sides are covered up



Renee uses 3 pieces of foam to make this chair.
 Each piece of foam is a right rectangular prism with dimensions 60 cm by 20 cm by 20 cm.
 Can Renee cover the chair with 2 m² of fabric?
 Explain.



example on pg 28



$$\text{Front} = 60 \times 20 = 1200$$

$$\text{Back}$$

$$\text{Left} + \text{Right} = 20 \times 20 = 400$$

$$\text{Top} + \text{Bottom} = 60 \times 20 = 1200$$

$$\begin{aligned} SA &= 1200 \times 4 + 400 \times 2 \\ &= 4800 + 800 \\ &= 5600 \text{ cm}^2 \end{aligned}$$

$$3 \text{ pieces} = 5600 \times 3 = 16800 \text{ cm}^2$$

(surface area of one piece of foam)

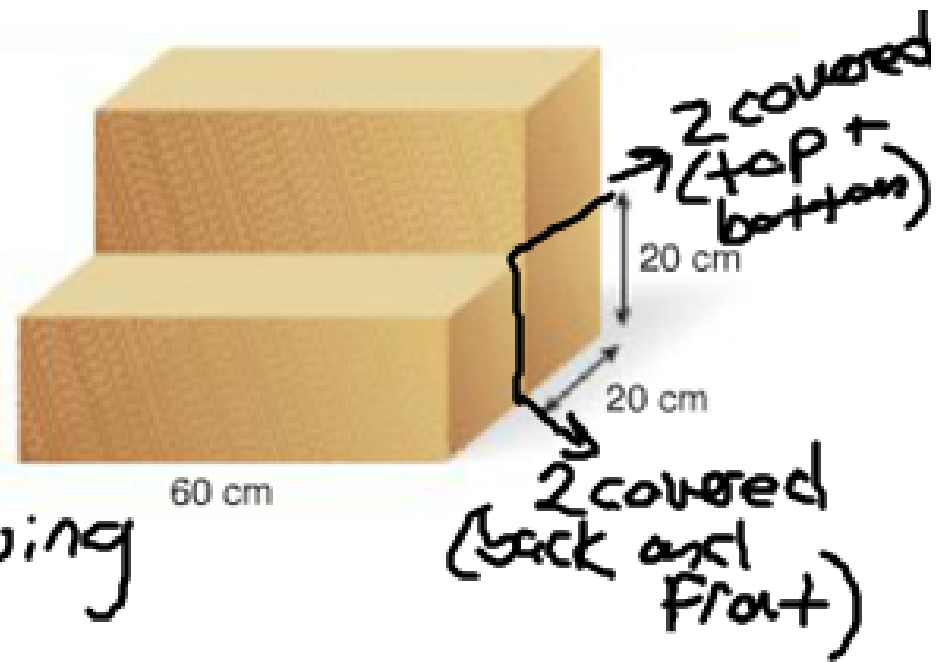
Renee uses 3 pieces of foam to make this chair.

Each piece of foam is a right rectangular prism with dimensions 60 cm by 20 cm by 20 cm.

Can Renee cover the chair with 2 m² of fabric?

Explain.

yes.



4 sides are not showing

$$4 \times 1200 = 4800 \text{ cm}^2$$

$$\text{SA of chair} = 16800 - 4800 = 12000 \text{ cm}^2$$

$$100 \text{ cm} = 1 \text{ m}$$

$$2 \text{ m}^2 = 20000 \text{ cm}^2$$

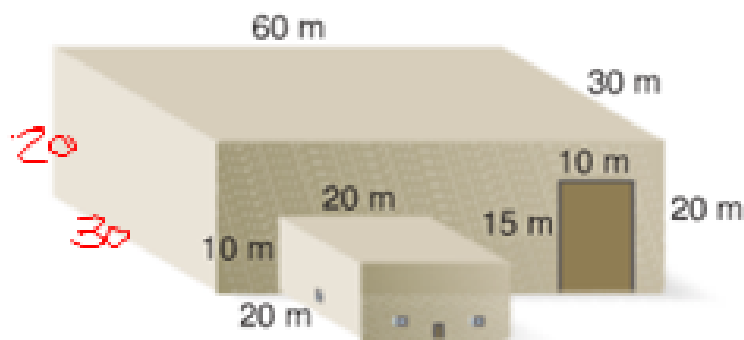
$$100^2 = 10000$$

$$10000 \text{ cm}^2 = 1 \text{ m}^2$$

A warehouse measures 60 m by 30 m by 20 m.
 An office attached to one wall of the warehouse
 measures 20 m by 20 m by 10 m.

- Determine the surface area of the building.
- A contractor quotes to paint the exterior of the building at a rate of \$2.50/m².

These parts of the building are not to be painted:
 the 2 roofs; the office door with area 2 m²;
 3 loading doors, each measuring 10 m by 15 m;
 and 4 windows on the office, each with area 1 m².
 How much would it cost to paint the building?



Big Box

$$\text{Left/Right} = 20 \times 30 = 600$$

$$\text{Front/Back} = 60 \times 20 = 1200$$

Small Box

$$\text{Left/Right} = 20 \times 10 = 200$$

$$\text{Front/Back} = 20 \times 10 = 200$$

$$\begin{aligned} \text{Total} &= (600 \times 2) + (1200 \times 2) + \\ &\quad (200 \times 4) \\ &= 4400 \end{aligned}$$

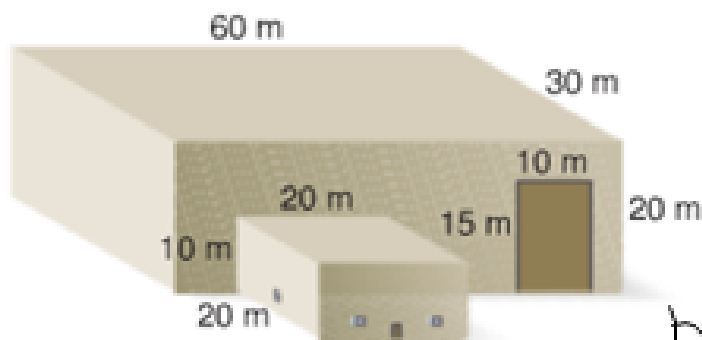
Pg 29 example

* Not doing top/bottom
 because not painting roof
 or floor

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4400
 area to
 be
 painted
 but we
 have to
 subtract
 doors, etc

Office door = (2)

3 loading doors = 10 x 15 = 150

→ 150 x 3 = (450)

4 windows = 4 x 1 = (4)

back of the office
 (overlap)

= 20 x 10 = 200

and where it touches
 the warehouse
 200 x 2 = (400)

4400 - 400 - 450 - 2 - 4

= (3544 m²)

3544 x 2.50

final = \$8860
 answer