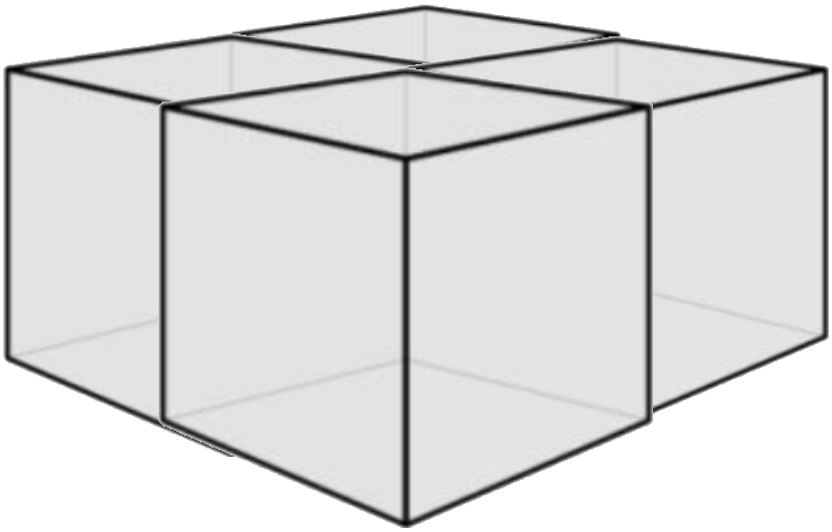
Warm Up Grade 9

Find the Surface Area of This Composite Object.
Each cube has edge length of 2 cm.



Warm Up Grade 9

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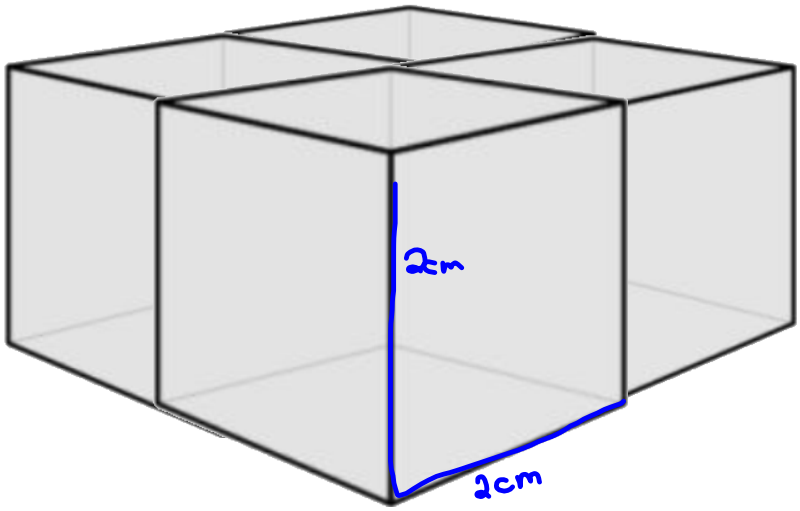


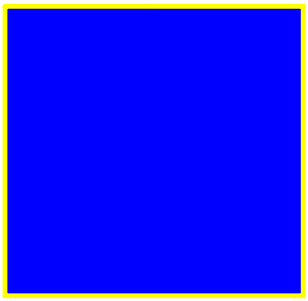
4 Cubes

1 face

A= bxh

A = 2cm x 2cm

A=4 cm^2



Total number of faces = 6 x 4 = 24 faces

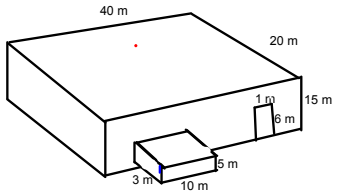
# of overlaps = 4

Total Area of all cubes = 24 faces - 2 (overlap)
= 24 - 2 (4)
= 24 - 8
= 16 Faces

Total SA = 16 Faces x Area of one face
= 16 x 4 cm^2
= 64 cm^2

Find the area of the warehouse with the attached storage space.

(Think if you were going to paint this....How much paint is needed???)



Step 1) Calculate the sides of all of the larger prism,

So surface area of the storage space is:

Step 2) Storage space consist of 3 walls and a roof

So surface area of the storage space is:

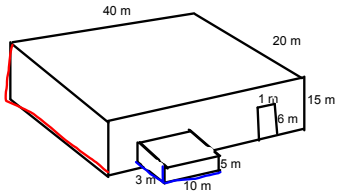
$T_{SA} = SA_1 + SA_2 - \text{overlap} - \text{door}$

$= 2600 + 160 - 100 - 6$

$= 2654\ m^2$

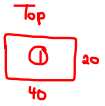
Find the area of the warehouse with the attached storage space.

(Think if you were going to paint this....How much paint is needed???)



Step 1) Calculate the sides of all of the larger prism, (40m x 20m x 15m)

Top



$A_1 = b \times h$

$A_1 = 40 \times 20$

$A_1 = 800\ m^2$

left / right

$A_2 = b \times h$

$A_2 = 20 \times 15$

$A_2 = 300\ m^2$

$2A_2 = 600\ m^2$

Front / back

$A_3 = b \times h$

$A_3 = 40 \times 15$

$A_3 = 600\ m^2$

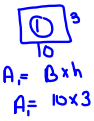
$2A_3 = 1200\ m^2$

So surface area of the storage space is:

$$SA_1 = A_1 + 2A_2 + 2A_3$$
$$= 800 + 600 + 1200$$
$$= 2600\ m^2$$

Step 2) Storage space consist of 3 walls and a roof (3m x 10m x 5m)

Top



$A_1 = B \times h$

$A_1 = 10 \times 3$

$A = 30\ m^2$

left/Right

$A_2 = b \times h$

$A_2 = 3 \times 5$

$A_2 = 15\ m^2$

$2A_2 = 30\ m^2$

Front/back

$A_3 = b \times h$

$A = 10 \times 5$

$A = 50\ m^2$

$2A_3 = 100\ m^2$

So surface area of the storage space is:

$$SA = A_1 + 2A_2 + 2A_3$$
$$= 30 + 30 + 100$$
$$= 160\ m^2$$

Overlap

$A = 50\ m^2$

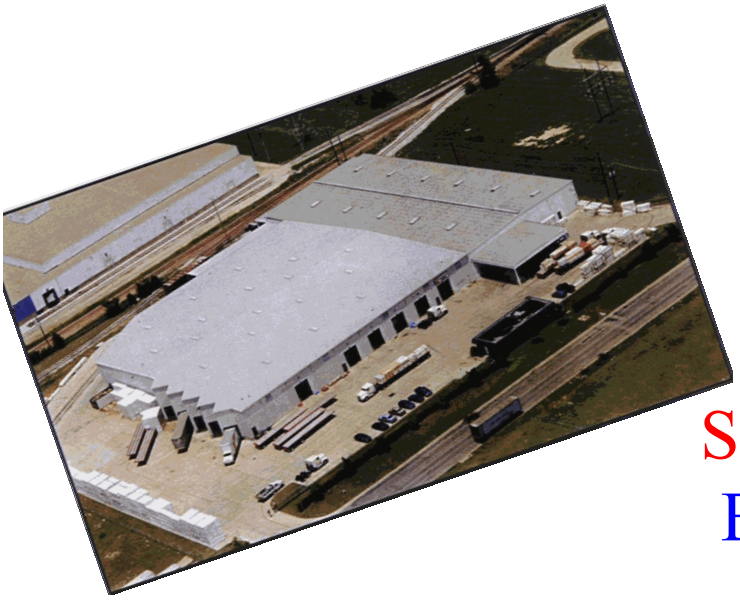
$2A = 100\ m^2$

door

$A = 1m \times 6m$

$A = 6m^2$

$$TSA = SA_1 + SA_2 - \text{overlap} - \text{door}$$
$$= 2600 + 160 - 100 - 6$$
$$= 2654\ m^2$$



See Page 29
Example 3

Warehouse Question

Class/ Homework

page 31

Questions: 8

4, 5 10
11

MUST SHOW ALL WORK