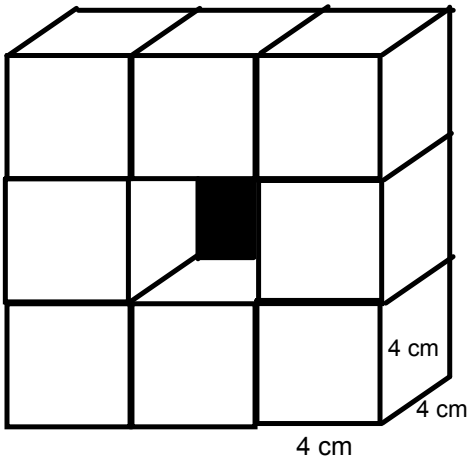
Curriculum Outcome

(SS2) Determine the surface area of composite 3-D objects to solve problems

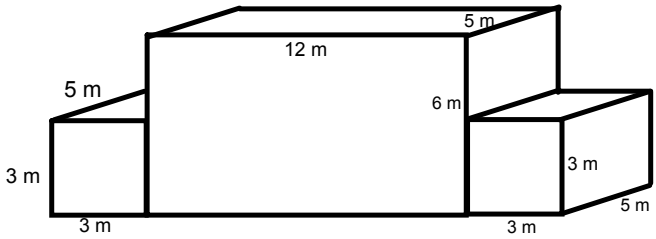
Student Friendly:

Calculating the surface area of connecting rectangle prisms. (Quiz review)

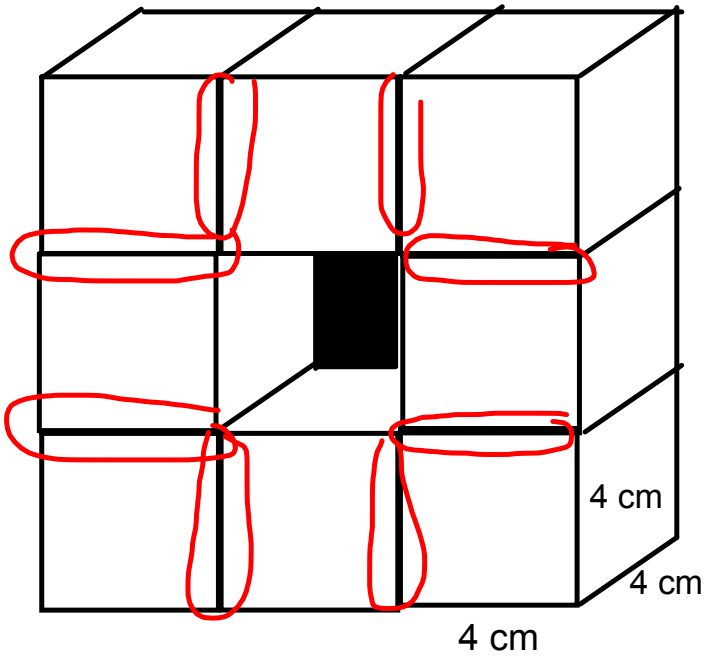
Find the total surface area knowing that all cubes are identical.



find the total surface area.



Find the total surface area knowing that all cubes are identical.



$A = b \times h$

$A = 4 \times 4$

$A = 16 cm^2$

8 cubes

× 6 faces

48 faces

− 8 overlaps

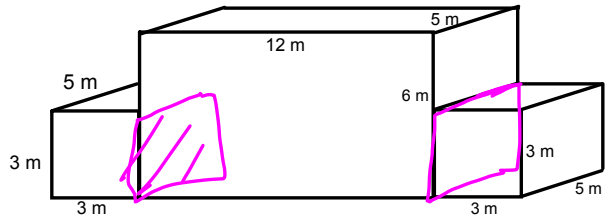
48 − 16 faces

= 32 faces

× 16 cm^2

512 cm^2

find the total surface area.



Big (5, 6, 12)

5 | 2 → 6
$A = b \times h$
$A = 5 \times 6$
$A = 30$
$2A = 60$

5 | 2 → 12
$A = b \times h$
$A = 5 \times 12$
$A = 60$
$2A = 120$

6 | 2 → 12
$A = b \times h$
$A = 6 \times 12$
$A = 72$
$2A = 144$

$SA_1 = 60 + 120 + 144$
$SA_1 = 324\ m^2$

Small (3, 3, 5)

3 | 2 → 3
$A = b \times h$
$A = 3 \times 3$
$A = 9$
$2A = 18$

3 | 2 → 6
$A = b \times h$
$A = 3 \times 5$
$A = 15$
$2A = 30$
over lap

3 | 2 → 5
$A = b \times h$
$A = 3 \times 5$
$A = 15$
$2A = 30$

$SA_2 = 18 + 30 + 30$
$SA_2 = 78\ m^2$

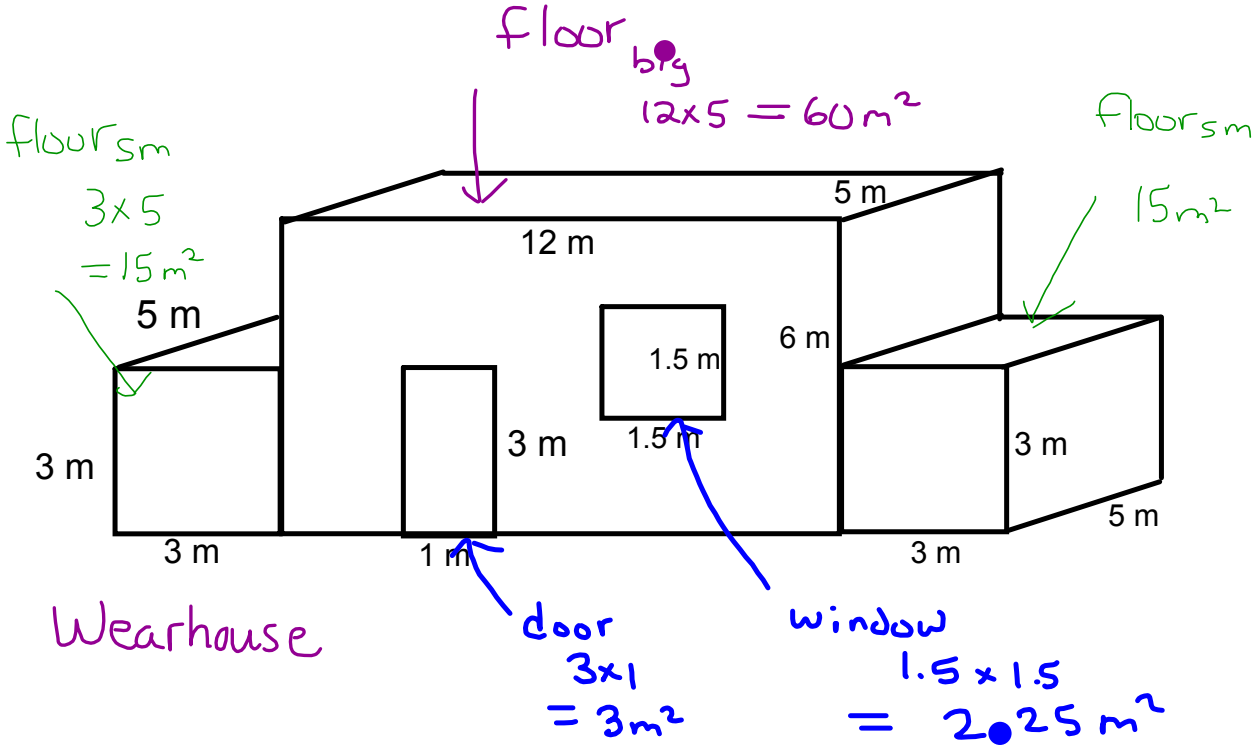
$SA_3 = 18 + 30 + 30$
$SA_3 = 78\ m^2$

$T_{SA} = SA_1 + SA_2 + SA_3$ − over lap − overlap

$= 324 + 78 + 78 - 30 - 30$

$= 420\ m^2$

find the total surface area of this warehouse.



TSA = Part A_{ans} − Big floor − Small floor − door − window

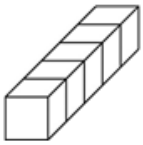
420 − 60 − 15 − 15 − 3 − 2.25

= 324.75 m^2

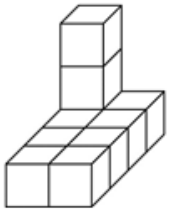
Class/ Homework

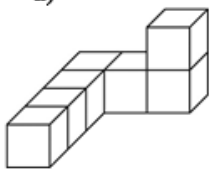
Lesson 1.3: Surface Areas of Objects Made from Right Rectangular Prisms

1. Each cube has edge length 2 unit.
Determine the surface area of each object.

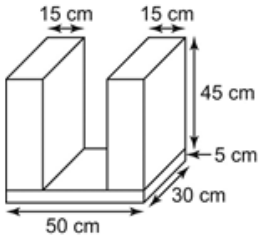
a) 

b) 

c) 

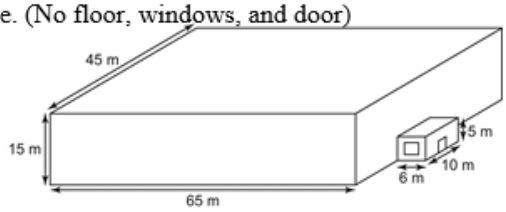
d) 

2. Determine the surface area of this composite object.



3. The local curling rink is shown in the diagram at the right.

a) Determine the surface area of the warehouse. (No floor, windows, and door)



b) The door is 1 m by 2 m
and the window is 4 m by 2 m. Determine
the surface area to be painted.

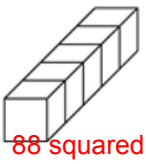
c) A can of paint covers 300 m^2 and
costs \$45. Determine the cost of the paint needed.

Class/ Homework

Lesson 1.3: Surface Areas of Objects Made from Right Rectangular Prisms

1. Each cube has edge length 2 unit.
Determine the surface area of each object.

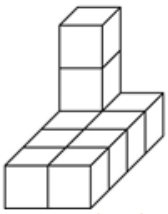
a)



88 squared units

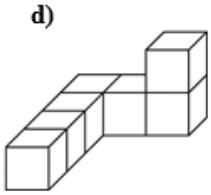
b) 72 squared units

c)

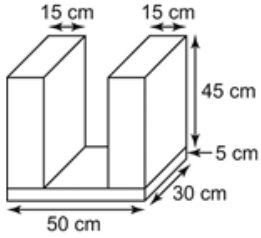


144 squared units

d) 120 squared units



2. Determine the surface area of this composite object.

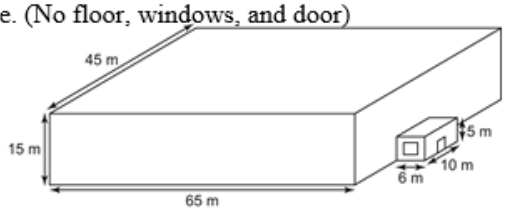


11 900 squared units

3. The local curling rink is shown in the diagram at the right.

a) Determine the surface area of the warehouse. (No floor, windows, and door)

6345 m^2



b) The door is 1 m by 2 m
and the window is 4 m by 2 m. Determine
the surface area to be painted. 6335 m^2

c) A can of paint covers 300 m^2 and
costs $45. Determine the cost of the paint needed. $990