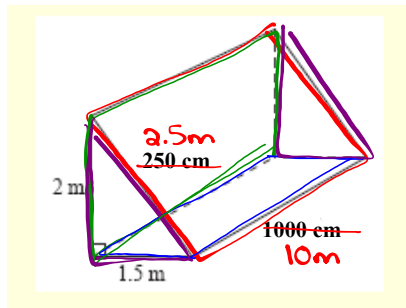
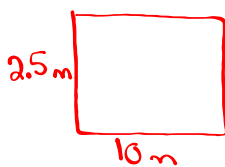


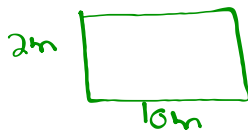
Calculate the surface area in meters.



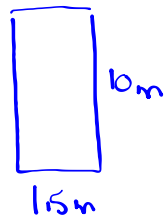
$$\begin{array}{l}
 \cancel{250\text{cm}} \times \frac{1\text{m}}{\cancel{100\text{cm}}} \\
 = \frac{250\text{m}}{100} \\
 = 2.5\text{m}
 \end{array}
 \quad
 \begin{array}{l}
 \cancel{1000\text{cm}} \times \frac{1\text{m}}{\cancel{100\text{cm}}} \\
 = \frac{1000\text{m}}{100} \\
 = 10\text{m}
 \end{array}$$



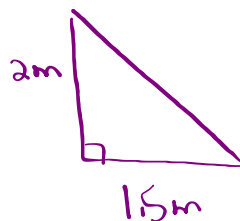
$$\begin{array}{l}
 A = l \times w \\
 A = 10\text{m} \times 2.5\text{m} \\
 \underline{A = 25\text{m}^2}
 \end{array}$$



$$\begin{array}{l}
 A = l \times w \\
 A = 10\text{m} \times 2\text{m} \\
 \underline{A = 20\text{m}^2}
 \end{array}$$



$$\begin{array}{l}
 A = l \times w \\
 A = 10\text{m} \times 1.5\text{m} \\
 \underline{A = 15\text{m}^2}
 \end{array}$$



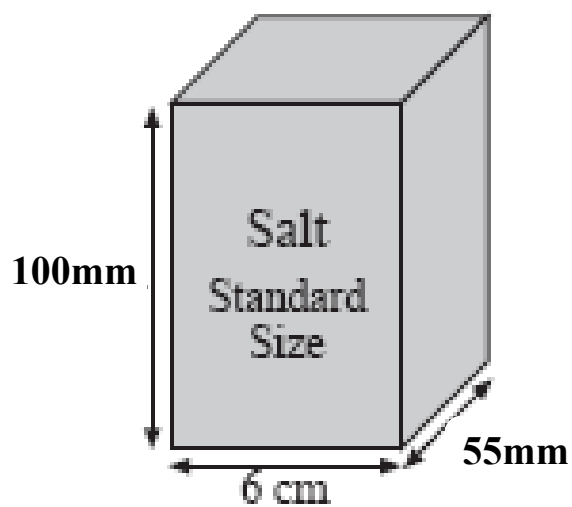
$$\begin{array}{l}
 A = \frac{b \times h}{2} \\
 A = \frac{1.5\text{m} \times 2\text{m}}{2} \\
 A = 1.5\text{m}^2
 \end{array}$$

Since there are 2 identical \triangle

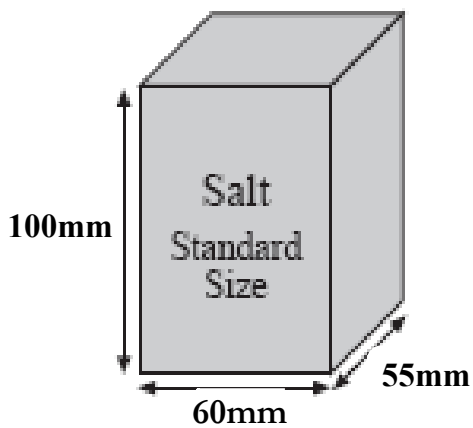
$$\begin{array}{l}
 A = 2(1.5\text{m}^2) \\
 \underline{A = 3\text{m}^2}
 \end{array}$$

$$\begin{array}{l}
 \text{Surface Area} = \underline{25} + \underline{20} + \underline{15} + \underline{3} \\
 = 63\text{m}^2
 \end{array}$$

Calculate the surface area in millimeters.



Calculate the surface area in millimeters.

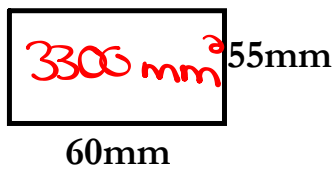


number x $\frac{\text{want}}{\text{have}}$

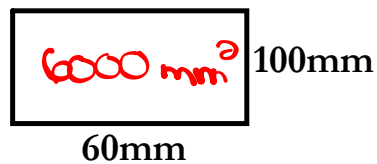
number x $\frac{\text{mm}}{\text{cm}}$

number x $\frac{10}{1}$

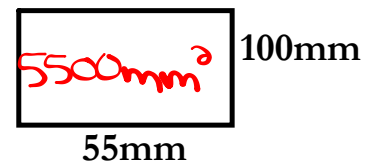
T & B



F & B



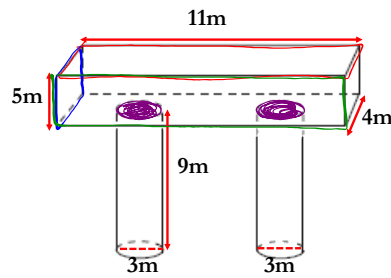
Sides



$$= 6600\text{mm}^2 + 12000\text{mm}^2 + 11000\text{mm}^2$$


$$= 29600\text{mm}^2$$

Calculate the surface area in meters.



Rectangular Prism:

Top + Bottom:




$$A = 2(l \times w)$$

$$A = 2(11m \times 4m)$$

$$A = 2(44m^2)$$

$$A = 88m^2$$

Sides:




$$A = 2(l \times w)$$

$$A = 2(5m \times 4m)$$

$$A = 2(20m^2)$$

$$A = 40m^2$$

Front + Back:



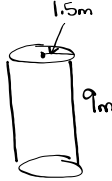
$$A = 2(l \times w)$$

$$A = 2(11m \times 5m)$$

$$A = 2(55m^2)$$

$$A = 110m^2$$

Cylinder:



$$A = 2\pi r^2 + 2\pi r h$$

$$A = 2(3.14)(1.5)^2 + 2(3.14)(1.5)(9)$$

$$A = 2(3.14)(2.25) + 2(3.14)(1.5)(9)$$


$$A = 14.13 + 84.78$$

$$A = 98.91 m^2 \leftarrow \text{Area of 1 cylinder}$$

$$A = 2(98.91 m^2)$$

$$A = 197.82 m^2$$

Overlap:



$$A = \pi r^2$$

$$A = (3.14)(1.5)^2$$

$$A = 7.065 m^2 \leftarrow \text{Area of 1 circle}$$

$$A = 4(7.065 m^2)$$

$$A = 28.26 m^2$$

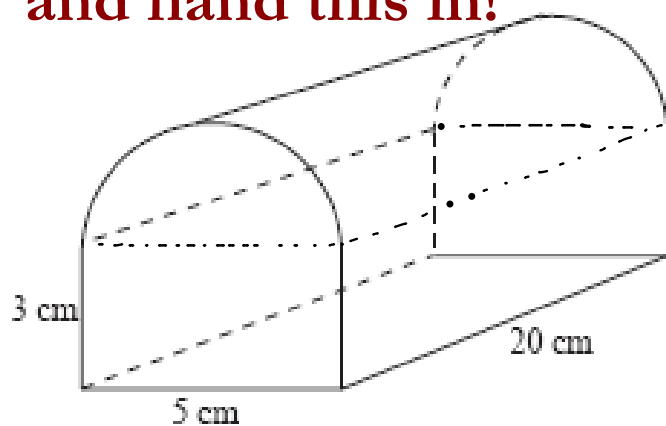
Circles have to be subtracted from tops of cylinders and bottom of prism

$$\text{Surface Area} = \underline{88} + \underline{40} + \underline{110} + \underline{197.82} - \underline{28.26}$$

$$= 407.56 m^2$$

↑
Overlap

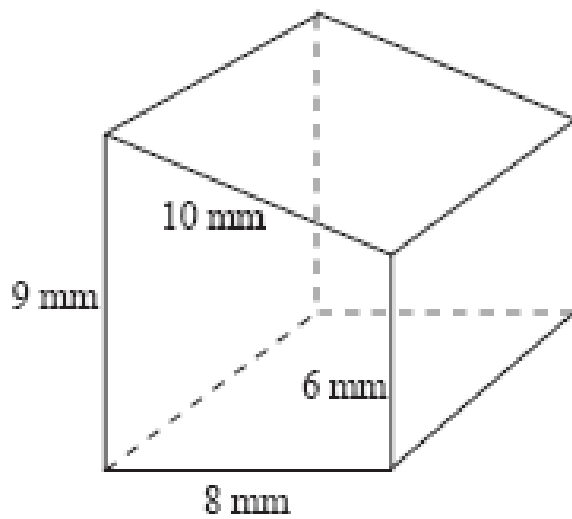
Calculate the surface area in centimeters and hand this in!



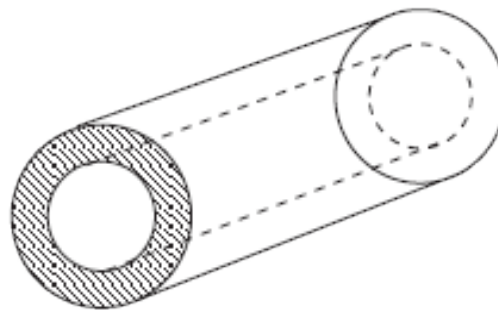
Answer:

$$SA = 426.625 \text{ cm}^2$$

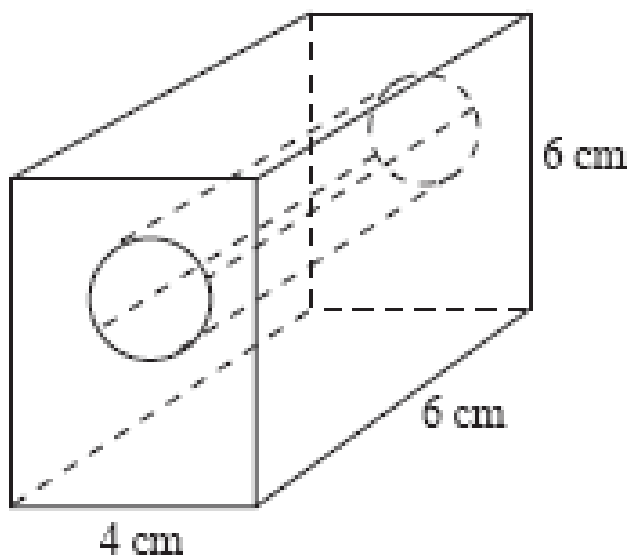
Calculate the surface area in millimeters.



The diagram shows the cross-section of a pipe of length 50 cm.
The inner diameter of the pipe is 20 cm and the outer diameter is 30 cm.



Calculate the surface area in centimeters.



Homework

1.

$$A = \frac{b \times h}{2}$$

$$= \frac{3 \times 4}{2}$$

$$= \frac{12}{2}$$

$$= 6 \times 2$$

$$= 12$$

$$A = L \times W$$

$$= 3 \times 1$$

$$= 3$$

$$A = L \times W$$

$$= 5 \times 1$$

$$= 5$$

$$A = L \times W$$

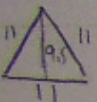
$$= 4 \times 1$$

$$= 4$$

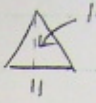
$$12 + 3 + 5 + 4$$

$$= 24 \text{ in}^2$$

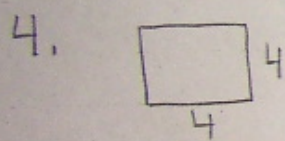
Bottom
"Base"



Sides
Three are identical


$$A = \frac{b \times h}{2}$$
$$= \frac{11 \times 9.5}{2}$$
$$= 52.25$$
$$A = \frac{b \times h}{2}$$
$$= \frac{11 \times 10.5}{2}$$
$$= 57.75 \times 3$$
$$173.25$$
$$52.25 + 173.25$$
$$225.5 \text{ in}^2$$

$$\begin{aligned}
 3. \quad SA_{\Delta} &= \pi r^2 + \pi r s \\
 &= (3.14)(7)^2 + (3.14)(7)(15.7) \\
 &= (3.14)(49) + 345.086 \\
 &= 153.86 + 345.086 \\
 &= 498.946
 \end{aligned}$$



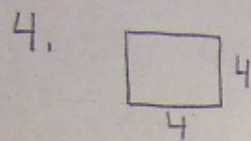
$$\begin{aligned}
 A &= L \times w \\
 &= 4 \times 4 \\
 &= \textcircled{16} \text{ mi}^2
 \end{aligned}$$

sides 4 identical sides.

An equilateral triangle with side length 4. The height is labeled '6.3'.

$$\begin{aligned}
 A &= \frac{b \times h}{2} \\
 &= \frac{4 \times 6.3}{2} \\
 &= 12.6 \times 4 \\
 &= \textcircled{50.4}
 \end{aligned}$$

$$16 + 50.4$$



$$\begin{aligned}
 A &= L \times w \\
 &= 4 \times 4 \\
 &= \textcircled{16} \text{ mi}^2
 \end{aligned}$$

sides 4 identical sides

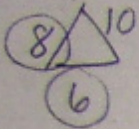

$$\begin{aligned}
 A &= \frac{b \times h}{2} \\
 &= \frac{4 \times 6,3}{2} \\
 &= 12,6 \times 4 \\
 &= \textcircled{50,4}
 \end{aligned}$$

$$\begin{aligned}
 &16 + 50,4 \\
 &66,4 \text{ mi}^2
 \end{aligned}$$

$$\begin{aligned}
 5. SA &= 4 \pi r^2 \\
 &= 4(3,14)(2,9)^2 \\
 &= 4(3,14)(8,41) \\
 &= 105,63 \text{ m}^2
 \end{aligned}$$

$$\pi \text{ button} \rightarrow 105,68 \text{ m}^2$$

6.

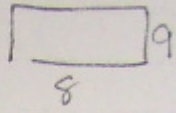



$$A = \frac{b \times h}{2}$$

$$= \frac{6 \times 8}{2}$$

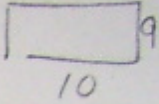
$$= 24 \times 2$$

(48)



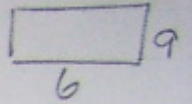
$$A = L \times W$$

$$= 8 \times 9$$

$$= 72$$


$$A = L \times W$$

$$= 10 \times 9$$

$$= 90$$


$$A = L \times W$$

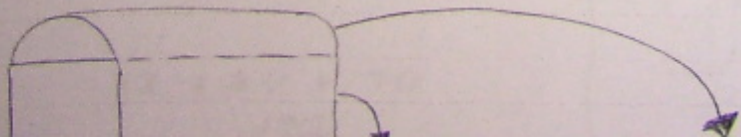
$$= 6 \times 9$$

$$= 54$$

$$48 + 72 + 90 + 54$$

$$264 \text{ yd}^2$$

7.



7.

Rectangular Prism * No Top

Bottom	Front & Back	Side & Side
$A = L \times W$	$A = L \times w$	$A = L \times w$
$= 4 \times 10$	$= 3 \times 4$	$= 10 \times 3$
$\textcircled{40}$	$= 12$	$= 30$
	$\frac{\times 2}{24}$	$\frac{\times 2}{60}$
	$40 + 24 + 60$	
	124	

$\frac{1}{2}$ of a Cylinder

$$SA = 2\pi r^2 + 2\pi r h$$

$$= 2(3.14)(2)^2 + 2(3.14)(2)(10)$$

$$= 2(3.14)(4) + 125.6$$

$$= 25.12 + 125.6$$

$$= \frac{150.72}{2}$$

$\textcircled{75.36}$

$124 + 75.36$
 199.36

6 7

Rectangular Prism * No Top

Top & Bottom	Front & Back	Side & Side
$A = L \times W$	$A = L \times W$	$A = L \times W$
$= 6 \times 7$	$= 6 \times 5$	$= 7 \times 5$
$= 42$	$= 30$	$= 35$
	$\times 2$	$\times 2$
	60	70

$42 + 60 + 70$
172

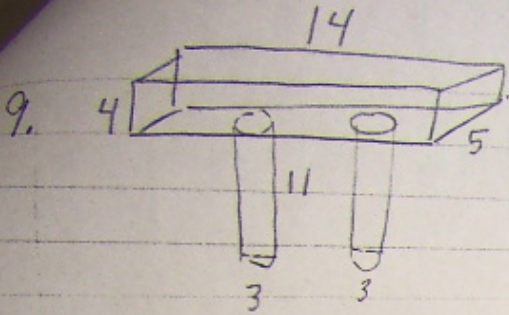
Triangular Prism * Side Missing

8-5

\triangle	\square	\square
3 6.7	3 7	6.7 7
6	3	6.7
$A = \frac{b \times h}{2}$	$A = L \times W$	$A = L \times W$
$= \frac{3 \times 6}{2}$	$= 3 \times 7$	$= 6.7 \times 7$
$= 9$	$= 21$	$= 46.9$
$\times 2$		
18		

$18 + 21 + 46.9$
85.9

$172 + 85.9$
 257.9 cm^2

9. 

Rectangular Prism		2 Cylinders	
Top Bottom	Front Back	Side Side	$SA = 2\pi r^2 + 2\pi rh$ $= 2(3.14)(1.5)^2 + 2(3.14)(1.5)(11)$ $= 14.13 + 103.62$ $= 117.75$ (1 cylinder) $SA = 2(117.75)$ $= 235.5$
$A = L \times W$	$A = L \times W$	$A = L \times W$	
$= 14 \times 5$	$= 14 \times 4$	$= 4 \times 5$	
$= 70$	$= 56$	$= 20$	
$\frac{\times 2}{140}$	$\frac{\times 2}{112}$	$\frac{\times 2}{40}$	

292

Overlap: $A = 4\pi r^2$

4 circles $A = 4(3.14)(1.5)^2$

$A = 28.26$

Total:

$$SA = 292 + 235.5 - 28.26$$

$$= 499.24$$