Name: $\qquad$

1. Find the surface area of the rectangular prism below:


* In this section, we will look at objects made up of 2 or more rectangular prisms. They are called composite objects. It just means that one rectangular prism is attached to another one. When they do, there will always be an area of overlap.

2. A. For the object below, what is the area of the top cube?

$$
\begin{aligned}
\text { S. }
\end{aligned} \begin{aligned}
A_{\text {cube }} & =6(\text { side object below, what is the area ot the top cube? } \\
& \equiv 6(6 \times 6) \\
& \left.=216 \mathrm{~cm}^{2}\right)
\end{aligned}
$$

B. What is the area of the bottom rectangular prism?

Front a Back: $2(10 \times 8)=160$

$$
\text { LeftaRight: } 2(6 \times 8)=96
$$



Top + Bo tom: $\alpha(10 \times 6)=\frac{120}{376}$ c. What is the area of the overlap region?

$$
\begin{aligned}
\text { Overlap } & =2(6 \times 6) \\
& =72
\end{aligned}
$$

D. What is the total surface area of the entire object?

$$
\begin{aligned}
\text { I.S.A } & =216+376-72 \\
& =520 \mathrm{~cm}^{2}
\end{aligned}
$$

3. Assume each face of the cube has area $1 \mathrm{~cm}^{2}$. Determine the surface area of each composite object.

$$
\begin{aligned}
\text { T.S.A } & =(6 \times \# \text { of cubes })-(2 \times \# \text { of over laps }) \\
& =(6 \times 6)-(2 \times 5) \\
& =36-10=26 \mathrm{~cm}^{2}
\end{aligned}
$$

(ii) How does the total surface area change if you remove the left cube?

The area will decrease by

$$
\begin{aligned}
\text { T.S.A } & =(6 \times 5)-(2 \times 4) \\
& =30-8 \\
& =22 \mathrm{~cm}^{2}
\end{aligned}
$$



SA Small Rectangular Prism:
$F_{j}^{\prime} B: 2(4.2 \times 3.5)=29.4$
LiR $R: 2(3.2 \times 4.2)=26.88$
$T F_{B}^{1}: 2(3.5 \times 3.2)=22.4$
S.A Large Rectangular Prism:
$F_{1}^{1} R: 2(10.5 \times 8.4)=176.4$
$4 \frac{1}{2} R: 2(7.6 \times 8.4)=127.68$
$T_{\mathrm{m}}+\mathrm{B}: \mathrm{a}(7.6 \times 10.5)=159.6$


