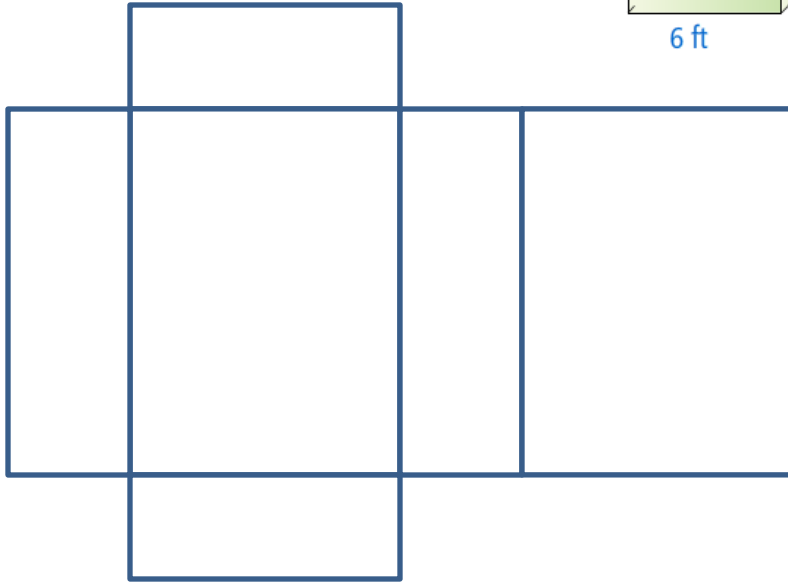
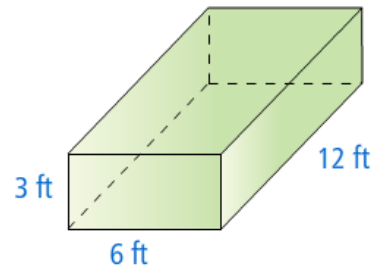
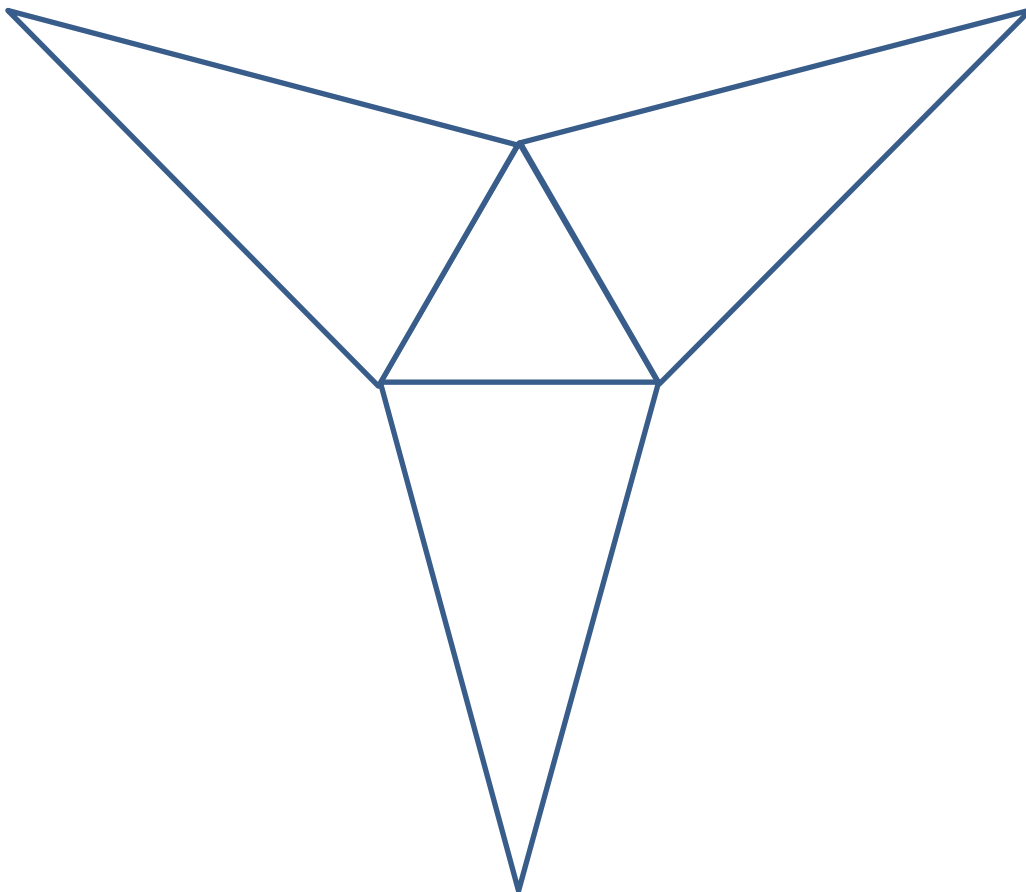
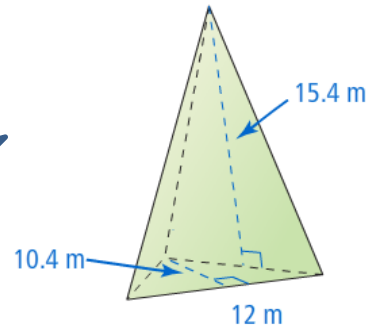


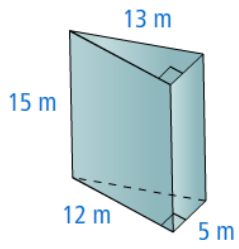
1. Find the Surface Area of the Rectangular Prism.



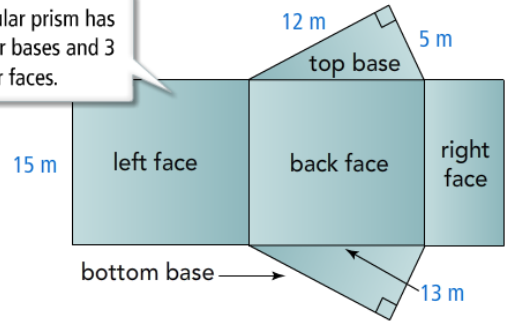
2. Find the Surface Area of the Regular Triangular Pyramid.



3. Find the Surface Area of the Triangular Prism.

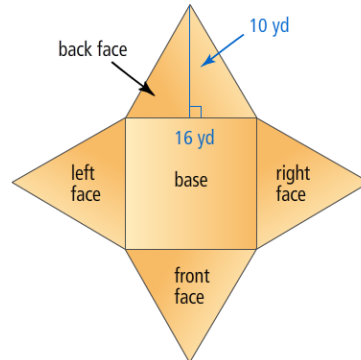
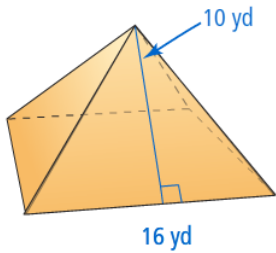


The triangular prism has 2 triangular bases and 3 rectangular faces.



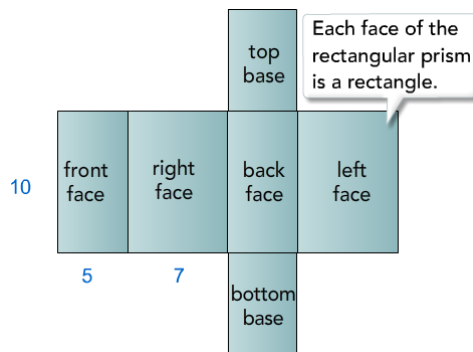
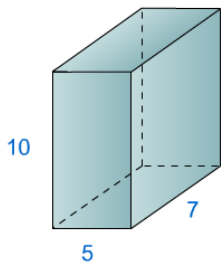
Left Face	Back Face	Right Face
Top Base	Bottom Base	Total Surface Area:

4. Find the Surface Area of the Square Pyramid.



Front Face	Back Face	Right Face
Left Face	Base	Total Surface Area:

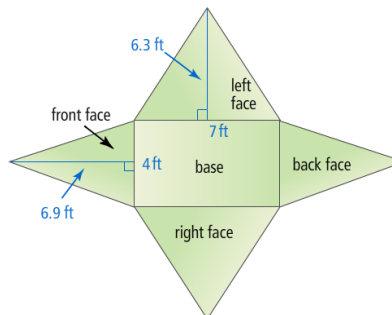
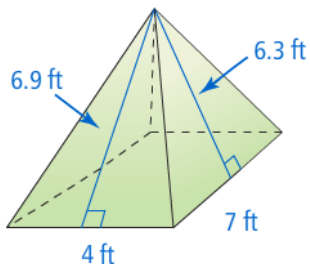
5. Find the Surface Area of the Rectangular Prism.



Front Face	Right Face	Back Face
Top Base	Bottom Base	Left Base

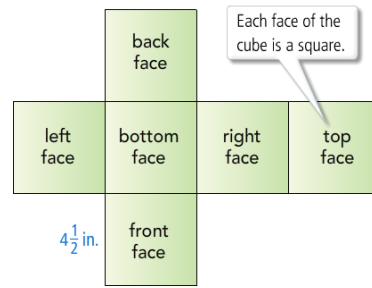
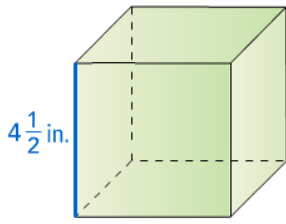
Total Surface Area:

6. Find the Surface Area of the Rectangular Pyramid.



Front Face	Right Face	Back Face
Left Face	Base	Total Surface Area:

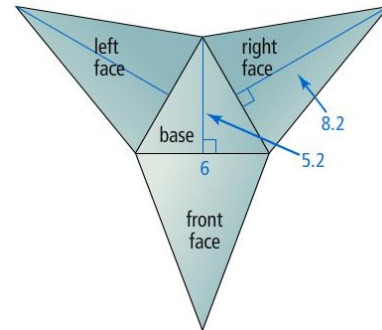
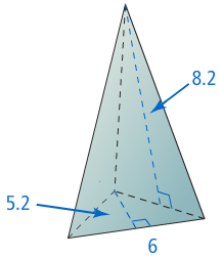
7. Find the Surface Area of the Cube



Front Face	Left Face	Back Face
Bottom Face	Right Face	Top Face

Total Surface Area:

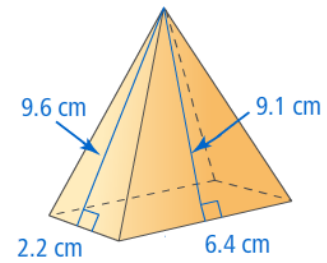
8. Find the Surface Area of the Regular Triangular Pyramid.



Left Face	Right Face	Front Face
Base		Total Surface Area:

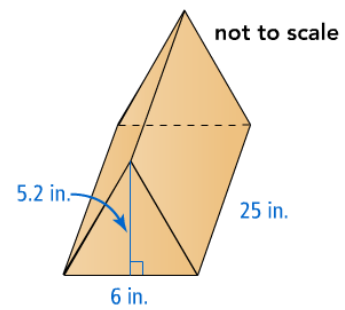
Example

Find the surface area of the rectangular pyramid to the nearest square centimeter.



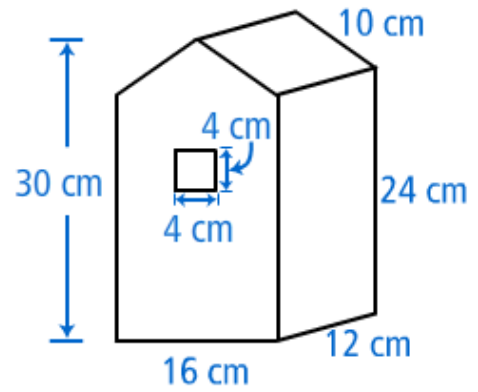
Example

The mailing package has the shape of a regular triangular prism. Find how many square inches of cardboard it takes to make the mailing package. Round your answer to the nearest square inch.



Challenge:

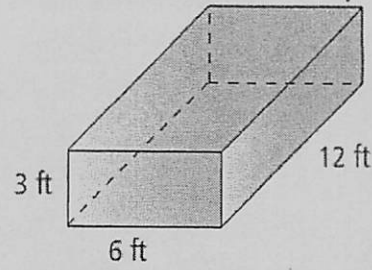
You plan to build a birdhouse with one square doorway as shown. How many square centimeters of wood do you need to make the birdhouse?



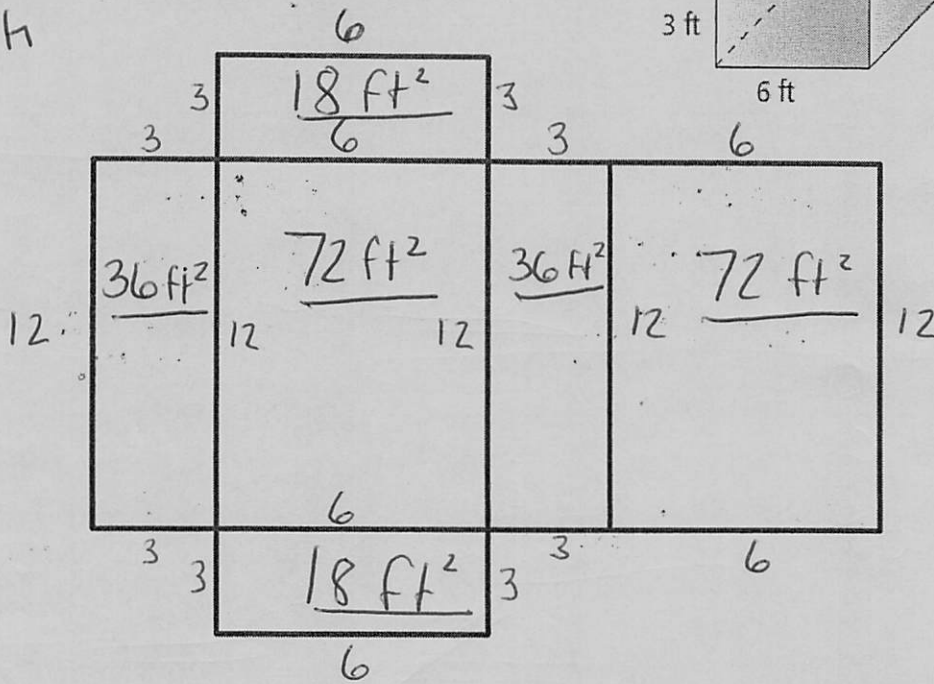
Surfaces Area Practice

Name Key

1. Find the Surface Area of the Rectangular Prism.



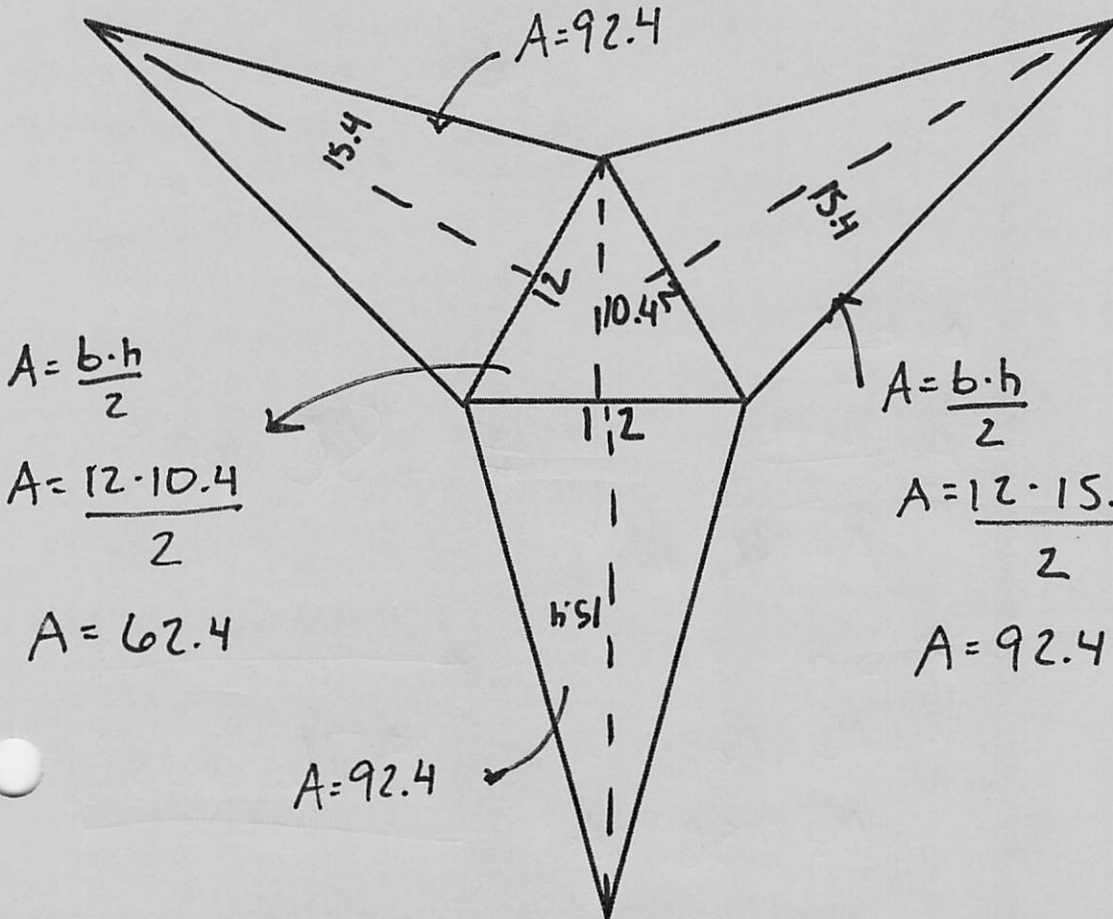
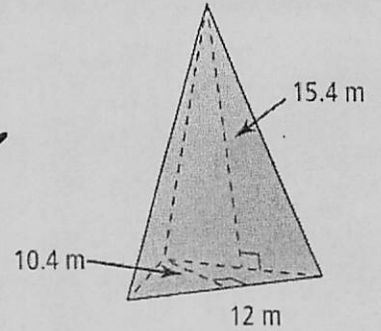
$A = b \cdot h$



$$\begin{array}{r} 18 \\ 36 \\ 72 \\ 18 \\ 36 \\ + 72 \\ \hline \end{array}$$

252 ft^2

Find the Surface Area of the Regular Triangular Pyramid.



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

$A = \frac{12 \cdot 10.4}{2}$

$A = 62.4$

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

$A = \frac{12 \cdot 15.4}{2}$

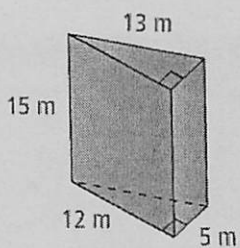
$A = 92.4$

$$\begin{array}{r} 92.4 \\ 92.4 \\ 92.4 \\ + 62.4 \\ \hline \end{array}$$

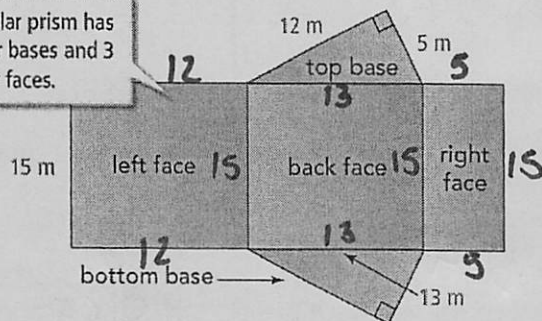
339.6 m^2

Example:

3. Find the Surface Area of the Triangular Prism.

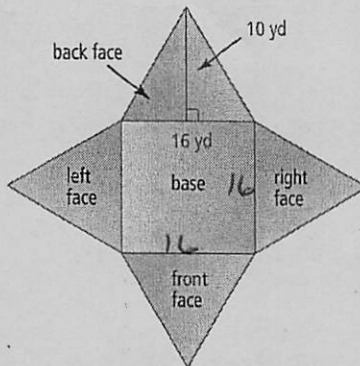
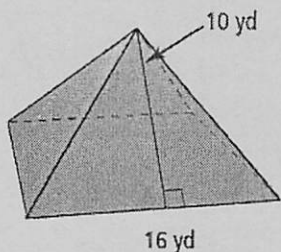


The triangular prism has 2 triangular bases and 3 rectangular faces.



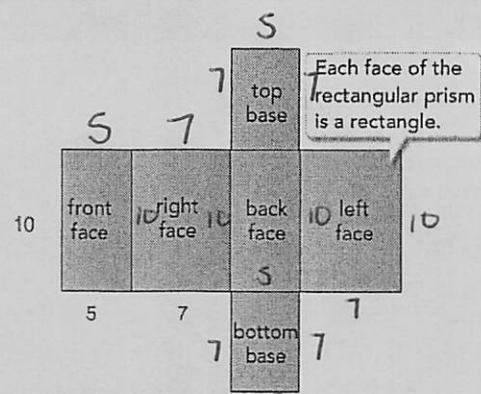
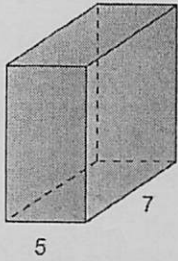
Left Face $A = b \cdot h$ $A = 15 \cdot 12$ $A = 180 \text{ m}^2$	Back Face $A = b \cdot h$ $A = 13 \cdot 15$ $A = 195 \text{ m}^2$	Right Face $A = b \cdot h$ $A = 5 \cdot 15$ $A = 75 \text{ m}^2$
Top Base $A = \frac{b \cdot h}{2}$ $A = \frac{5 \cdot 12}{2}$ $A = 30 \text{ m}^2$	Bottom Base $= 30 \text{ m}^2$	Total Surface Area: 510 m^2

4. Find the Surface Area of the Square Pyramid.



Front Face 80 yds^2	Back Face $A = \frac{b \cdot h}{2}$ $A = \frac{16 \cdot 10}{2}$ $A = 80 \text{ yds}^2$	Right Face $= 80 \text{ yds}^2$
Left Face 80 yds^2	Base $A = b \cdot h$ $A = 16 \cdot 16$ $A = 256 \text{ yds}^2$	Total Surface Area: 576 yds^2

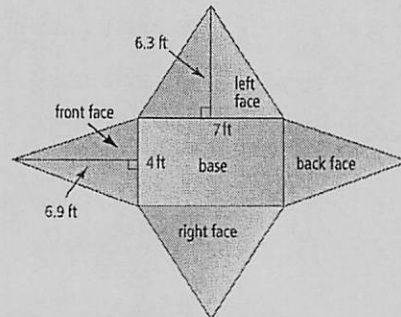
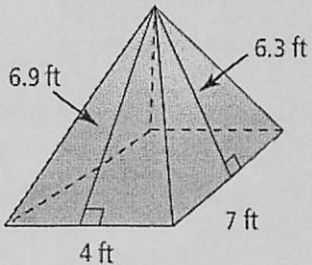
5. Find the Surface Area of the Rectangular Prism.



Front Face $A = b \cdot h$ $A = 10 \cdot 5$ $A = 50$	Right Face $A = b \cdot h$ $A = 10 \cdot 7$ $A = 70$	Back Face $A = b \cdot h$ $A = 10 \cdot 5$ $A = 50$
Top Base $A = b \cdot h$ $A = 5 \cdot 7$ $A = 35$	Bottom Base $A = b \cdot h$ $A = 5 \cdot 7$ $A = 35$	Left Base $A = b \cdot h$ $A = 10 \cdot 7$ $A = 70$

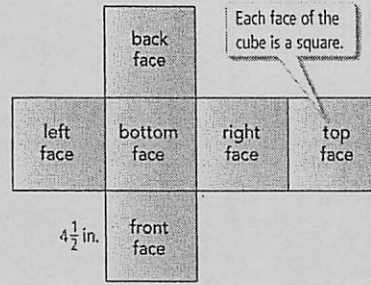
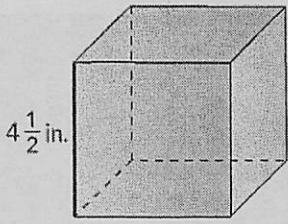
Total Surface Area: 310

6. Find the Surface Area of the Rectangular Pyramid.



Front Face $A = \frac{b \cdot h}{2}$ $A = \frac{4 \cdot 6.9}{2}$ $A = 13.8 \text{ ft}^2$	Right Face $= \text{Left Face}$ $A = 22.05 \text{ ft}^2$	Back Face $= \text{Front Face}$ $A = 13.8 \text{ ft}^2$
Left Face $A = \frac{b \cdot h}{2}$ $A = \frac{7 \cdot 6.9}{2}$ $A = 22.05 \text{ ft}^2$	Base $A = b \cdot h$ $A = 7 \cdot 4$ $A = 28 \text{ ft}^2$	Total Surface Area: 99.7 ft²

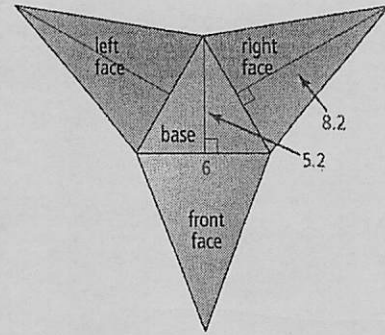
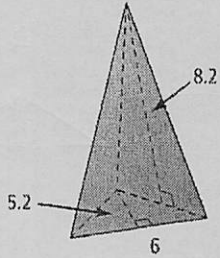
7. Find the Surface Area of the Cube



<p>Front Face</p> $A = b \cdot h \quad A = 4\frac{1}{2} \cdot 4\frac{1}{2}$ $A = \frac{9}{2} \cdot \frac{9}{2}$ $A = \frac{81}{4} = 20\frac{1}{4} \text{ in}^2$	<p>Left Face</p> $= 20\frac{1}{4} \text{ in}^2$	<p>Back Face</p> $= 20\frac{1}{4} \text{ in}^2$
<p>Bottom Face</p> $= 20\frac{1}{4} \text{ in}^2$	<p>Right Face</p> $= 20\frac{1}{4} \text{ in}^2$	<p>Top Face</p> $= 20\frac{1}{4} \text{ in}^2$

Total Surface Area: $20\frac{1}{4} \cdot 6 = \frac{81}{4} \cdot \frac{6}{1} = \frac{243}{2} = 121\frac{1}{2} \text{ in}^2$

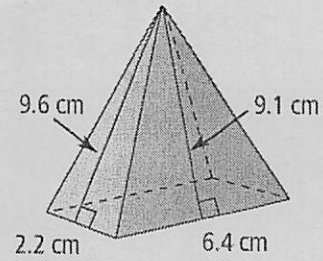
8. Find the Surface Area of the Regular Triangular Pyramid.



<p>Left Face</p> $A = 24.6$	<p>Right Face</p> $A = \frac{b \cdot h}{2}$ $= \frac{6 \cdot 8.2}{2}$ $A = 24.6$	<p>Front Face</p> $= A = 24.6$
<p>Base</p> $A = \frac{b \cdot h}{2}$ $A = \frac{6 \cdot 5.2}{2}$ $A = 15.6$		<p>Total Surface Area:</p> 89.4

Example

Find the surface area of the rectangular pyramid to the nearest square centimeter.



Left and Right Face

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

$$A = \frac{2 \cdot 2 \cdot 9.6}{2}$$

$$A = 10.56 \text{ cm}^2 \times 2 = \underline{21.12 \text{ cm}^2}$$

Front and Back Face

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

$$A = \frac{6.4 \cdot 9.1}{2}$$

$$A = 29.12 \text{ cm}^2 \times 2 =$$

$$\underline{58.24 \text{ cm}^2}$$

Base:

$$A = b \cdot h$$

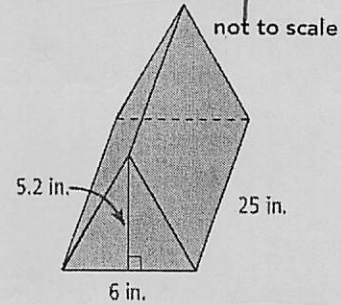
$$A = 2.2 \cdot 6.4$$

$$A = \underline{14.08 \text{ cm}^2}$$

21.12
58.24
+ 14.08
<hr/>
SA =
93.44 cm ²

Example

The mailing package has the shape of a regular triangular prism. Find how many square inches of cardboard it takes to make the mailing package. Round your answer to the nearest square inch.



Rectangular Faces x 3

$$A = b \cdot h$$

$$A = 25 \cdot 6$$

$$A = 150 \text{ in}^2 \times 3 = \underline{450 \text{ in}^2}$$

Triangle Bases x 2

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

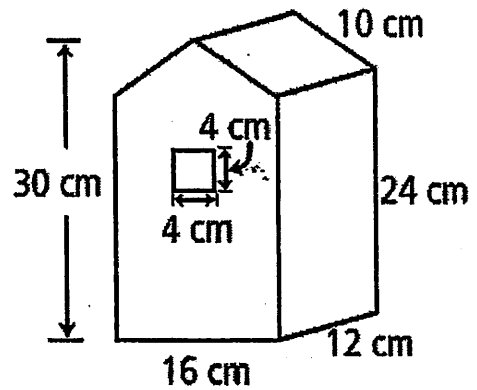
$$A = \frac{6 \cdot 5.2}{2}$$

$$A = 15.6 \text{ in}^2 \times 2 = \underline{31.2 \text{ in}^2}$$

450
+ 31.2
<hr/>
481.2 in ²

Challenge:

You plan to build a birdhouse with one square doorway as shown. How many square centimeters of wood do you need to make the birdhouse?



Bottom

$$16 \cdot 12 = \underline{192 \text{ cm}^2}$$

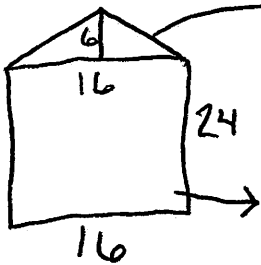
Sides $\times 2$

$$12 \cdot 24 = 288 \text{ cm}^2 \times 2 = \underline{576 \text{ cm}^2}$$

Roof $\times 2$

$$12 \cdot 10 = 120 \text{ cm}^2 \times 2 = \underline{240 \text{ cm}^2}$$

Back



$$A = \frac{6 \cdot 16}{2} = 48 \text{ cm}^2$$

$$A = 16 \cdot 24 = 324 \text{ cm}^2$$

~~2~~

$$\begin{array}{r} 324 \\ + 48 \\ \hline 432 \end{array} \text{ cm}^2$$

Surface Area
1856 cm²

Front

$$432 \text{ cm}^2 - 16 \text{ cm}^2 = \underline{416 \text{ cm}^2}$$