April 21, 2015 5th 6th

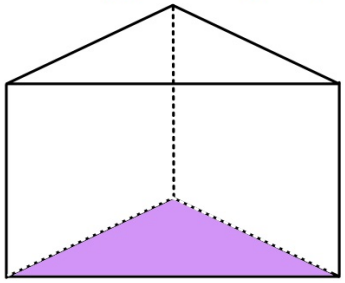
Catchup

4/21 - 3D Figures and Nets

Figures are named by using the base shape and then determining what is happeneing with the vertical sides.

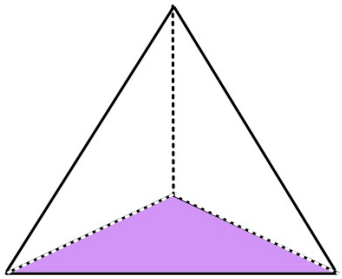
If the sides go straight up, it is a **prism**.

Triangular prism



If the sides go up to meet at a point, it is a **pyramid**.

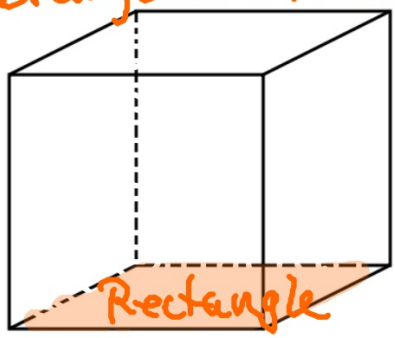
Triangular Pyramid



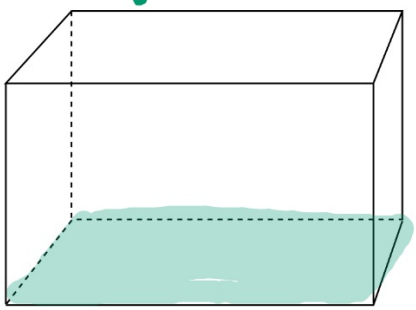
Dotted lines mean they cannot be seen from the given direction.

Find each base shape then name each figure.

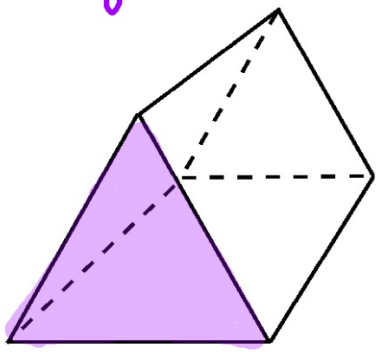
Rectangular Prism



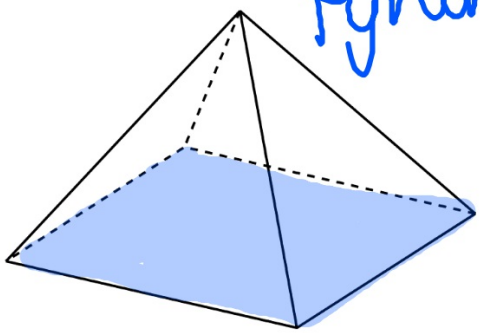
Rectangular Prism

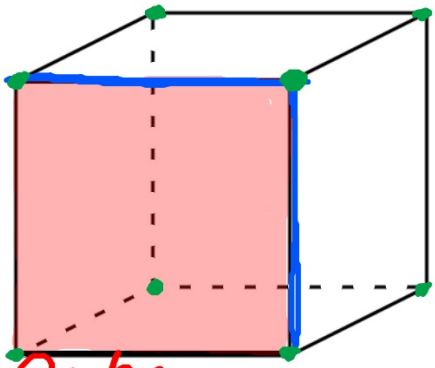


Triangular Prism

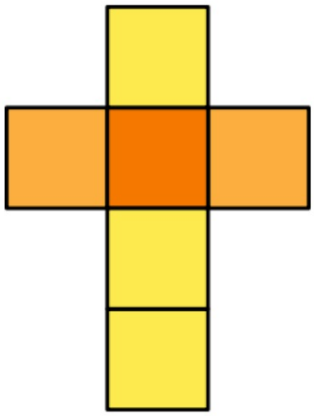


Rectangular Pyramid





Cube

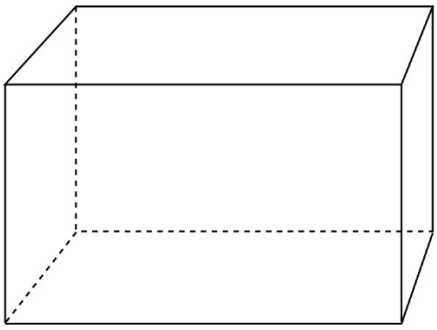


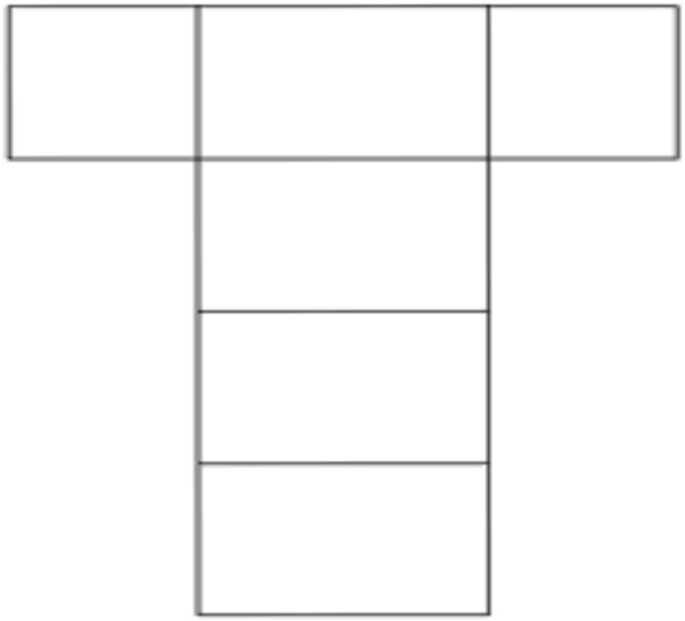
Faces: 6 flat sides

Edges: 12 lines where faces meet

Vertices: 8 corners

Draw a **net** for the figure (a two-dimensional representation of what it would look like torn apart and lying flat)

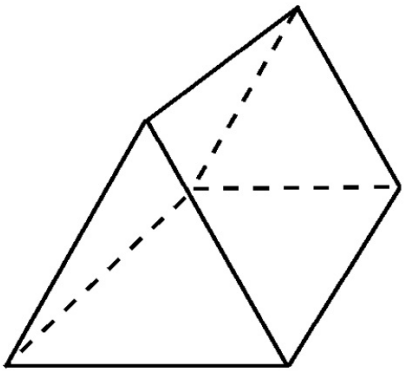


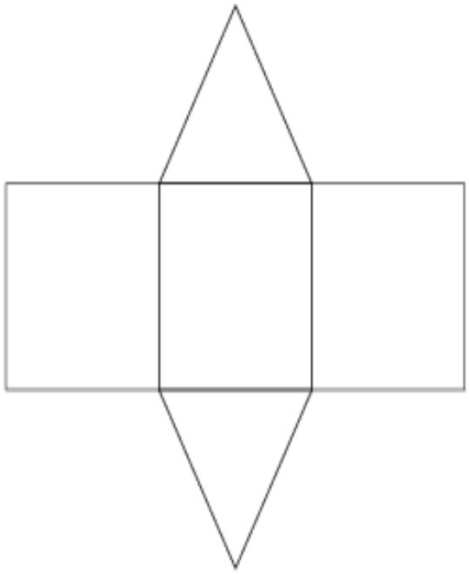


Faces: 6

Edges: 12

Vertices: 8

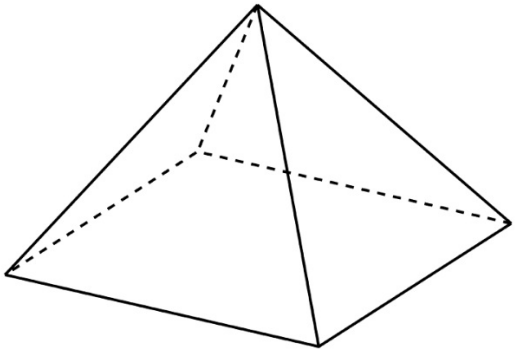


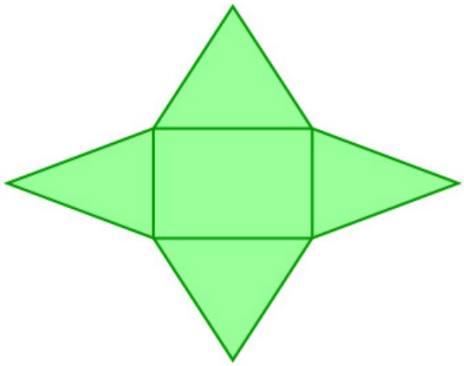


Faces: 5

Edges: 9

Vertices: 6



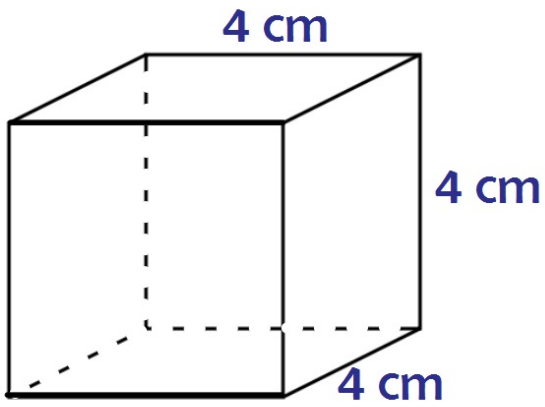


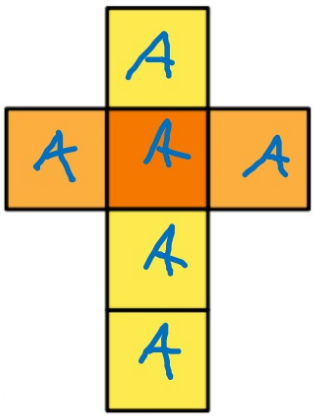
Faces: 5

Edges: 8

Vertices: 5

Find the **surface area** of each figure by finding the area of each surface (flat shape) and adding them up.





$SA = 6 \cdot \text{area of one side}$

$= 6 \cdot LW$

$= 6 \cdot 4 \cdot 4$

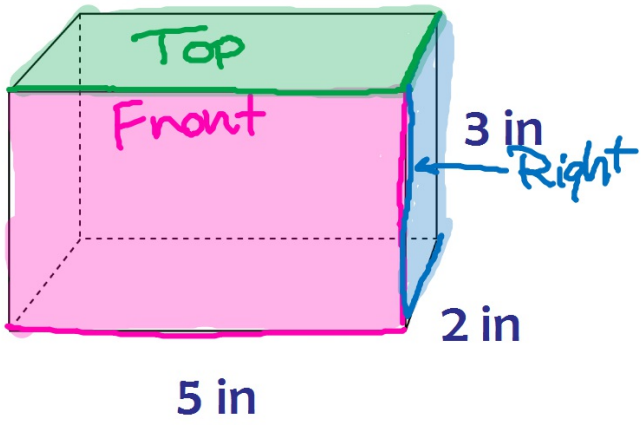
$= 6 \cdot 16$

$= 96 \text{ cm}^2$

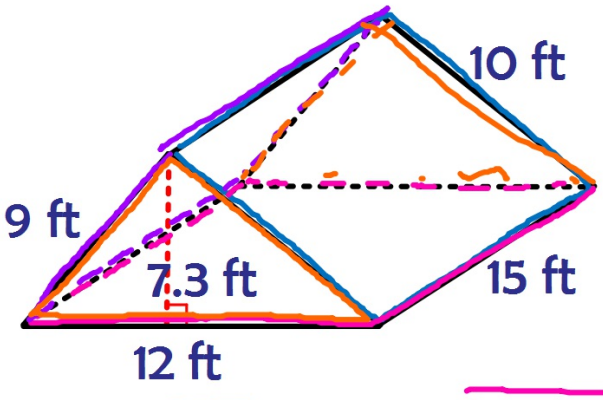
15 15
Front / Back
$A = LW$
$= 5 \cdot 3$
$= 15 \text{ in}^2$

Top / Bottom
$A = LW$
$= 5 \cdot 2$
$= 10 \text{ in}^2$

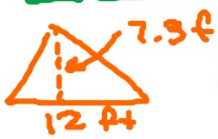
Right / Left
$A = LW$
$= 3 \cdot 2$
$= 6 \text{ in}^2$



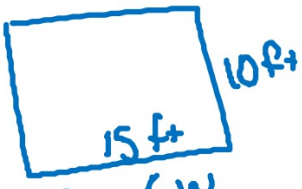
15
15
10
10
6
+ 6
62 in^2



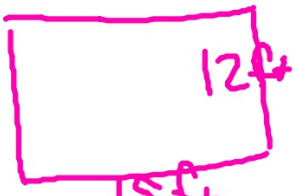
2 △ 3 ▭



$A = \frac{1}{2}bh$
$= \frac{1}{2}(12)(7.3)$
$= 43.8\ ft^2$



$A = LW$
$= 15 \cdot 10\ ft^2$
$= 150\ ft^2$



$A = LW$
$= 15 \cdot 12$
$= 180\ ft^2$

$A = LW$
$= 15 \cdot 9$
$= 135\ ft^2$

150
180
135
43.8
+ 43.8
552.6 ft²

Homework

Due