

Surface Area and Nets

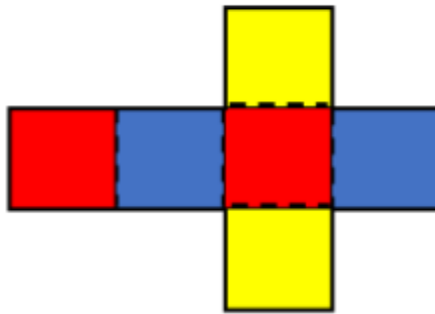
To find the amount of material needed to make your three dimensional (3D) shipping container, you will need to find the **surface area** of the container.

The **surface area** of a solid figure is the sum of the areas of all the faces or surfaces that enclose the solid.

One way to find the surface area of an object or a container is to use **nets**. A net is a 2D pattern that can be folded to create a 3D object. How can the net below be folded to create a cube? You can fold the net along any dotted black line.



Cube



Cube Net

Imagine how the net on the right could fold into the cube on the left. Notice how each face of the cube is shown in the net. How could the net help you find the surface area of the cube?

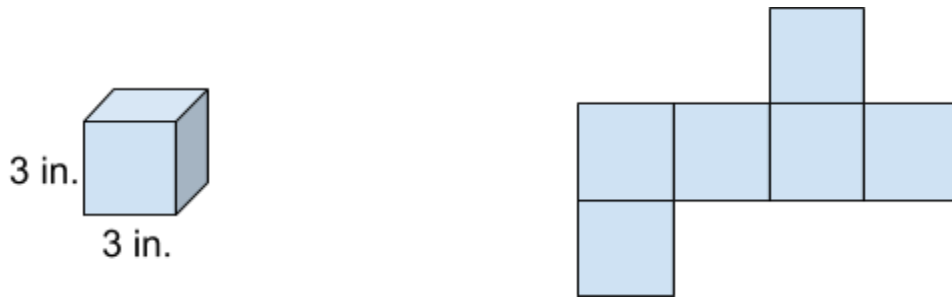
There are different shapes that can be used to make most shapes. Use [this resource](#) to explore different nets for cubes.

DESIGN&PITCH CHALLENGE

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SURFACE AREA AND NETS

Using Nets to Calculate the Surface Area of a Cube

The picture below shows a cube and its net. Find the area of each face of the cube. Then, add those areas together to find the surface area of the cube.

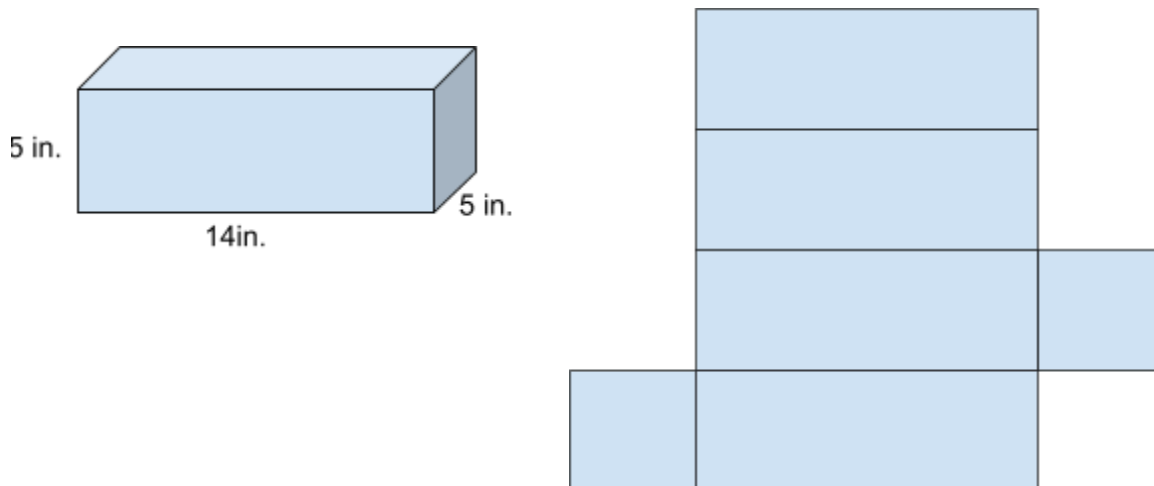


Area of each face = _____

Surface area of the cube = _____

Using Nets to Calculate the Surface Area of a Rectangular Prism

A rectangular prism and its net are shown below. Label the dimensions of the net. Then, use the net to find the surface area of the rectangular prism.



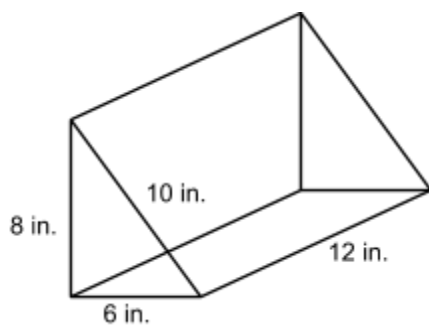
Surface Area of the Rectangular Prism: _____

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Using Nets to Calculate the Surface Area of a Right Triangular Prism

Draw a net that could be used to make the right triangular prism shown below. Then, use the net to find its surface area. Remember, the formula $A = \frac{1}{2}b \cdot h$ can be used to find the area of the triangular faces.



Surface Area of the Right Triangular Prism: _____