

Do Now

A pyramid of 1 cm x 1 cm x 1 cm cubes is formed. The bottom layer has a 5 x 5 arrangement of these cubes. The second layer has a 3 x 3 arrangement. The top layer is a single cube.

The sides and tops of the pyramid were painted (not the bottom).

How many square centimeters in total were painted?



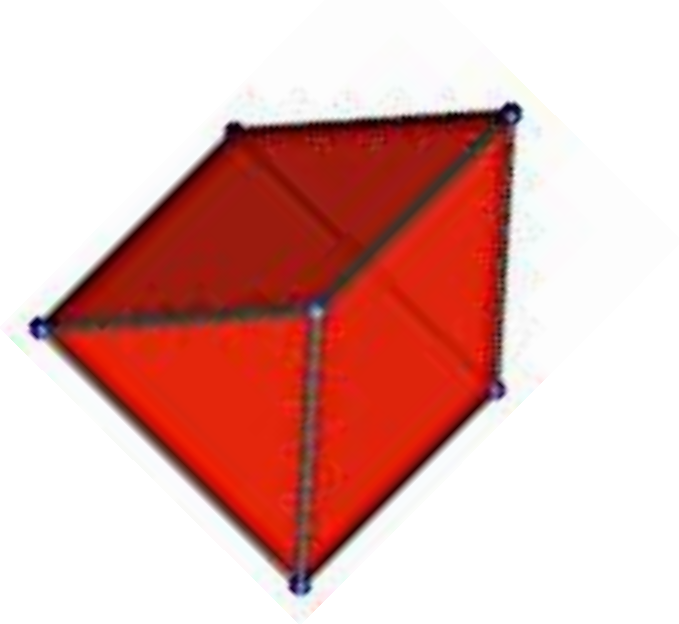
A pyramid of 1 cm x 1 cm x 1 cm cubes is formed. The bottom layer has a 7 x 7 arrangement of these cubes. The second layer has a 5 x 5 arrangement. The third layer has a 3 x 3 arrangement. The top layer is a single cube.

The sides and tops of the pyramid were painted (not the bottom).

How many square centimeters in total were painted?

The **Surface Area** of a solid is the amount of material it would take to cover it.

How do you think we would find the surface area of this polyhedron?



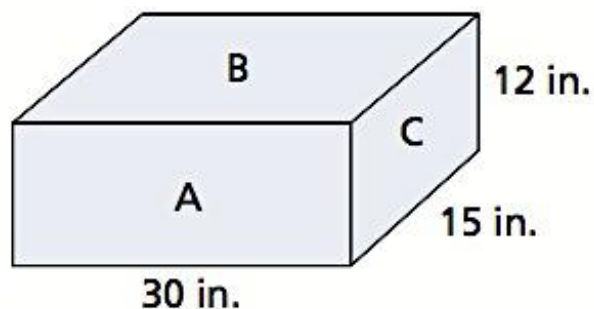
If we measured the dimensions in centimeters, what units would we use to report the surface area?

How do you think we would find the surface area of this polyhedron?



Surface Area of a Prism

The surface area of a prism is the sum of the areas of its faces.

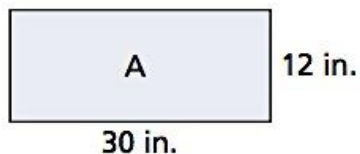


Area of A

$$A = l \cdot w$$

$$A = 30 \cdot 12$$

$$A = 360$$

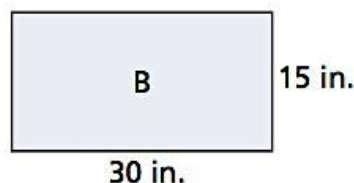


Area of B

$$A = l \cdot w$$

$$A = 30 \cdot 15$$

$$A = 450$$

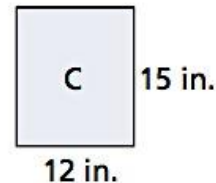


Area of C

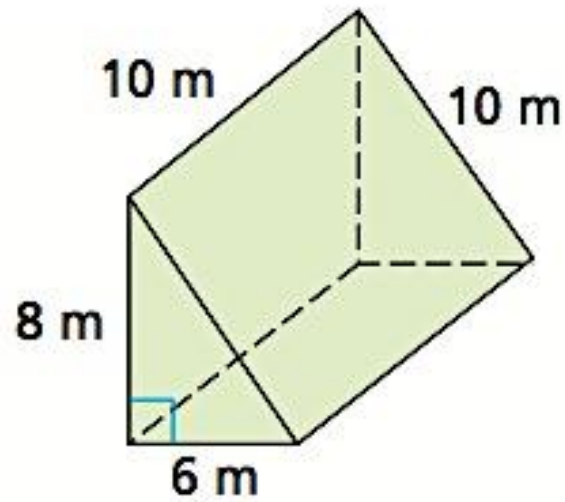
$$A = l \cdot w$$

$$A = 15 \cdot 12$$

$$A = 180$$



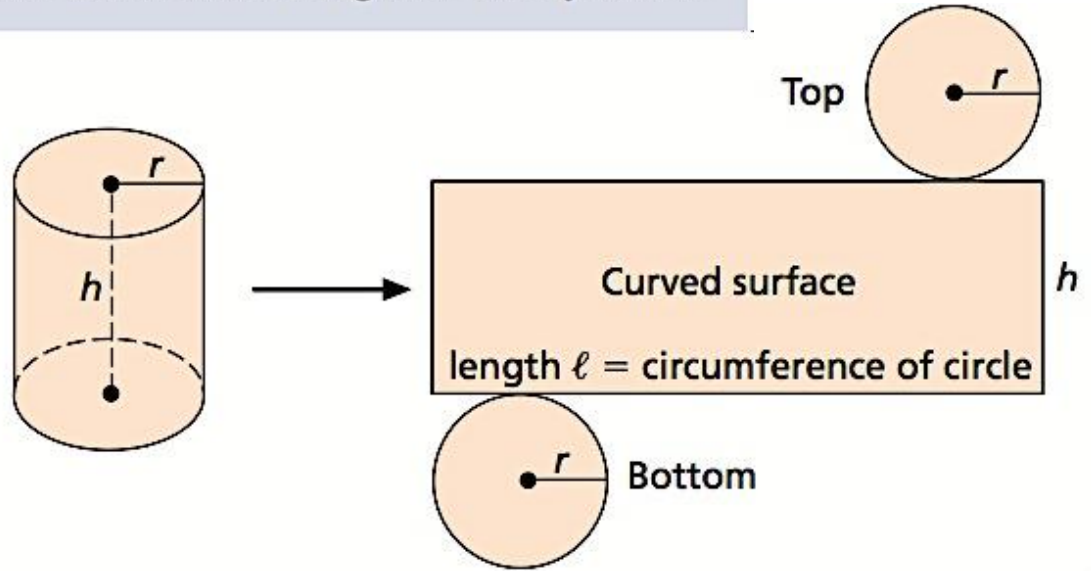
What is the surface area of this polyhedron?



**Surface Area
of a
Cylinder**

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

where r is the radius and h is the height of the cylinder.



Find the surface area of the cylinder below.
Estimate using $\pi \approx 3.14$.

