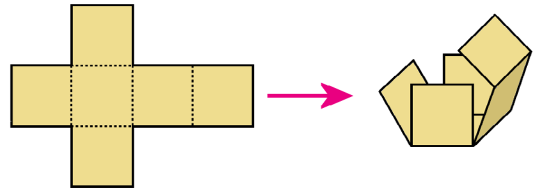
# Nets and Surface Area 1

This picture shows a flat figure, called a **net**, that can be folded up to form a solid, in this case a cube.

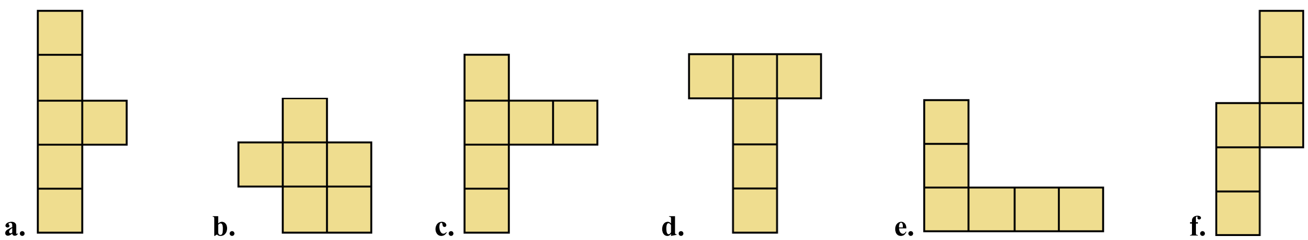


Each face of a cube is a square. If we find the total area of its faces, we will have found the **surface area** of the cube.

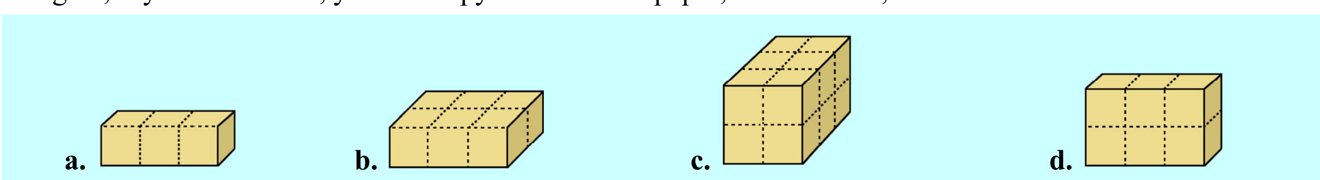
Let's say that each edge of this cube measures 2 cm. Then one face would have an area of 2 cm · 2 cm = 4 $cm^2$, and the total surface area of the six faces of the cube would be 6 · 4 $cm^2$ = 24 $cm^2$.

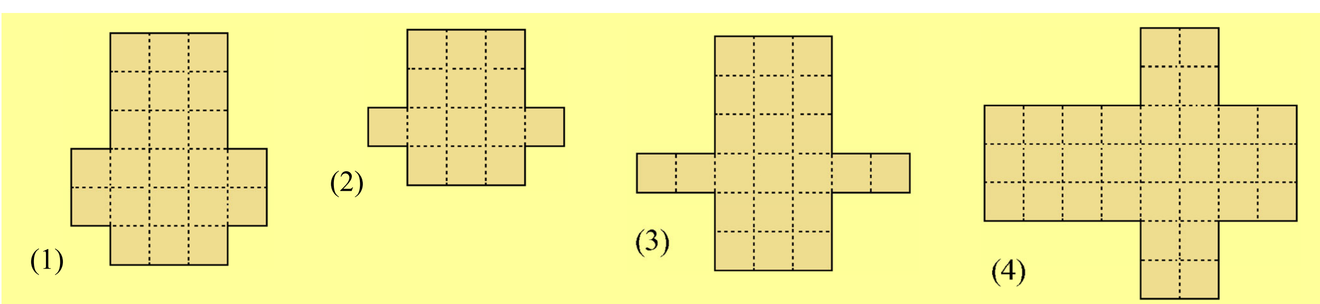
What is its volume? Remember, **volume** has to do with how much space a figure takes up, and not with "flat" area. Volume is measured in *cubic* units, whereas area is measured in *square* units. The volume of this cube is 2 cm · 2 cm · 2 cm = $(2\ cm)^3$ = 8 $cm^3$.

1. Which of these patterns are nets of a cube? In other words, which ones can be folded into a cube? You can copy the patterns on paper, cut them out and fold them.




2. Match each rectangular prism (a), (b), (c) and (d) with the correct net (1), (2), (3) and (4). Again, if you would like, you can copy the nets onto paper, cut them out, and fold them.




3. Find the surface area (A) and volume (V) of each rectangular prism in problem #2 if the edges of the little cubes are 1 cm long.

**a.** A = ________ $cm^2$ **b.** A = ________ $cm^2$ **c.** A = ________ $cm^2$ **d.** A = ________ $cm^2$

V = ________ $cm^3$ V = ________ $cm^3$ V = ________ $cm^3$ V = ________ $cm^3$