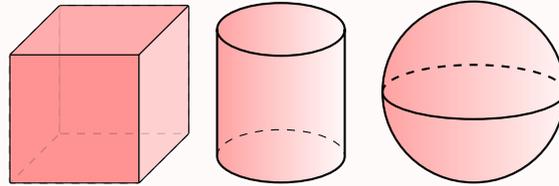# THREE-DIMENSIONAL SHAPES

A THREE-DIMENSIONAL SHAPES

Definition Solid Geometry

In solid geometry, we study **three-dimensional (3D) shapes**, such as cubes, cylinders, and spheres. The diagrams below show some examples of these shapes.

Definition Surface

A **surface** is the outside of a three-dimensional (3D) shape. It is the part of the shape you can touch.

Definition Face

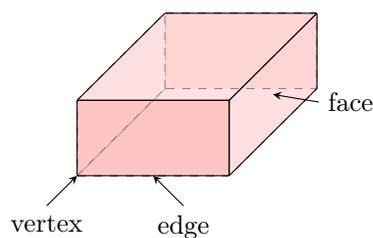A **face** is a flat surface on a three-dimensional shape.

Definition Edge

An **edge** is a straight line where two faces meet.

Definition Vertex

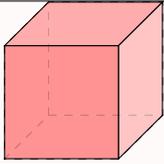A **vertex** is a corner of a three-dimensional shape. It is a point where two or more edges meet.

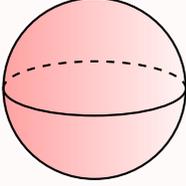
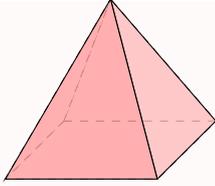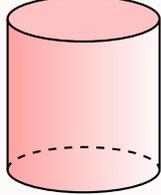**Ex:** This box-shaped solid has many faces, edges, and vertices. One example of each is shown.

B CLASSIFICATION

Definition Classification

We can sort three-dimensional (3D) shapes by counting their faces, edges, and vertices. Some examples are shown in the table below.

Name	Shape	Faces	Edges	Vertices
Cube		6 (flat faces)	12	8
Sphere		1 (curved surface)	0	0
Square Pyramid		5 (flat faces)	8	5
Cylinder		3 (1 curved, 2 flat faces)	0	0

Note: Shapes that have only curved surfaces, like the sphere and the cylinder, do not have edges or vertices.