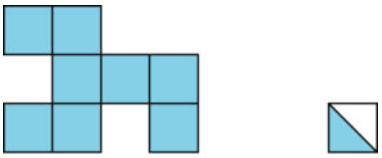
Unit 1 Glossary Terms

area

Area is the number of square units that covers a two-dimensional region, without any gaps or overlaps.

For example, the area of region A is 8 square units. The area of the shaded region of B is square unit.



region

A region is the space inside of a shape.

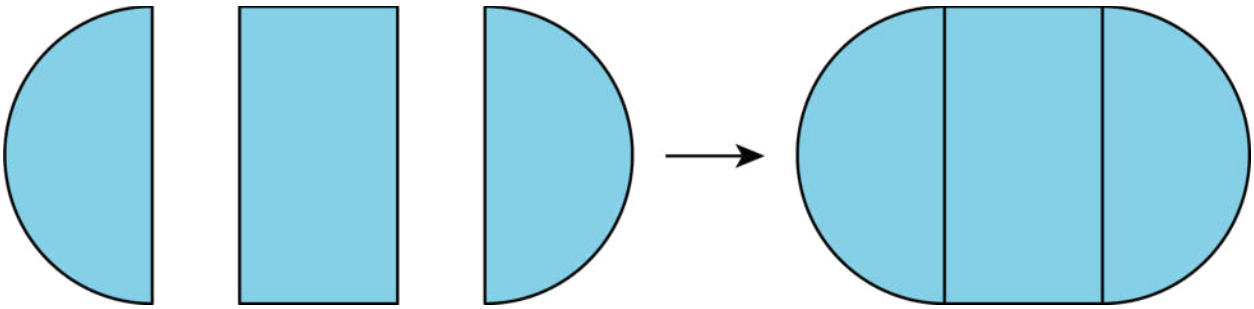
Some examples of two-dimensional regions are inside a circle or inside a polygon. Some examples of three-dimensional regions are the inside of a cube or the inside of a sphere.

rearrange

To move around.

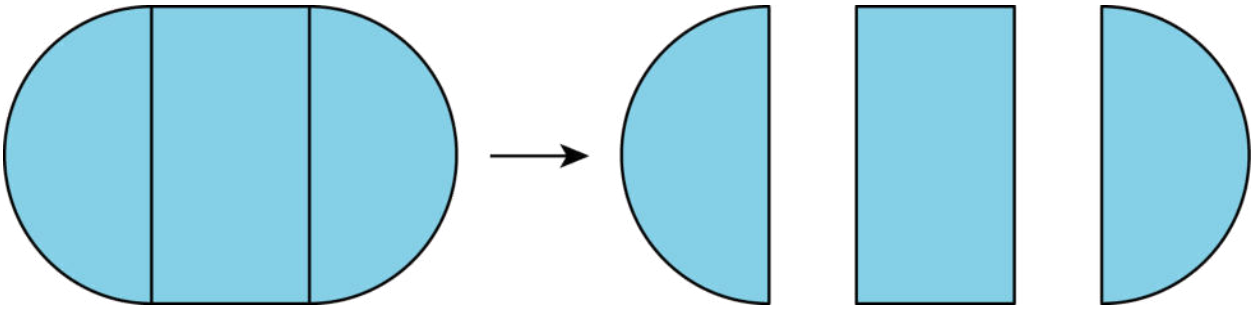
compose

Compose means “put together.” We use the word *compose* to describe putting more than one figure together to make a new shape.



decompose

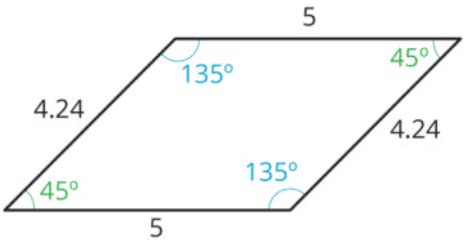
Decompose means “take apart.” We use the word *decompose* to describe taking a figure apart to make more than one new shape.



parallelogram

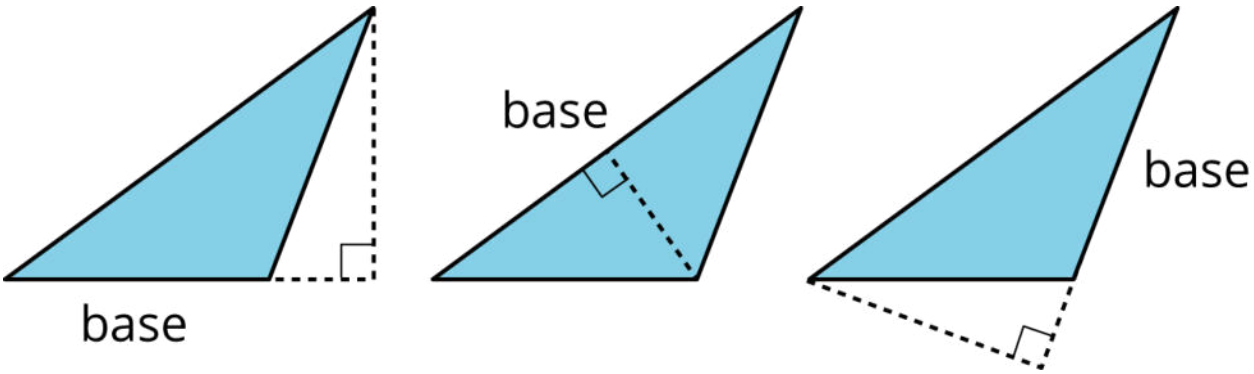
A parallelogram is a type of quadrilateral that has two pairs of parallel sides.

Here are two examples of parallelograms.



base (of a parallelogram or triangle)

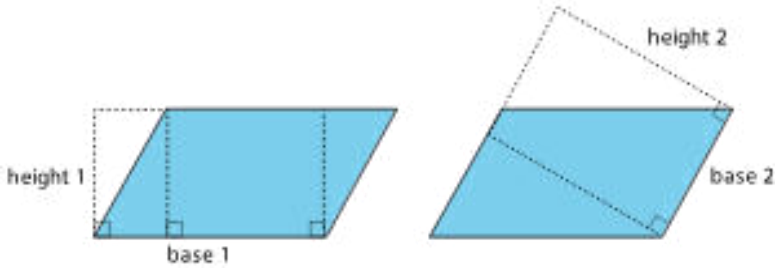
We can choose any side of a parallelogram or triangle to be the shape's base. Sometimes we use the word *base* to refer to the length of this side.



height (of a parallelogram or triangle)

The height is the shortest distance from the base of the shape to the opposite side (for a parallelogram) or opposite vertex (for a triangle).

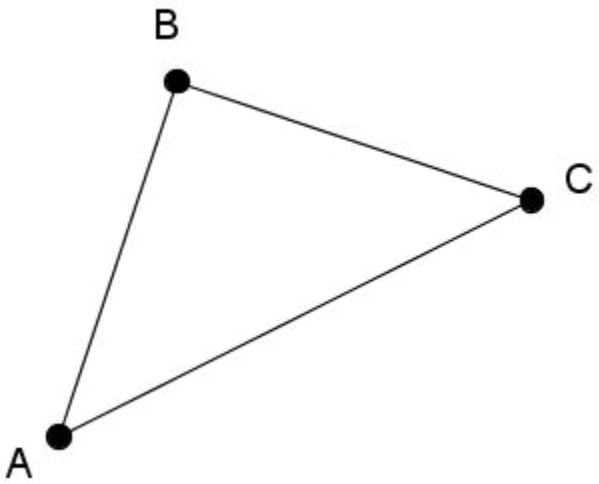
We can show the height in more than one place, but it will always be perpendicular to the chosen base.



opposite vertex

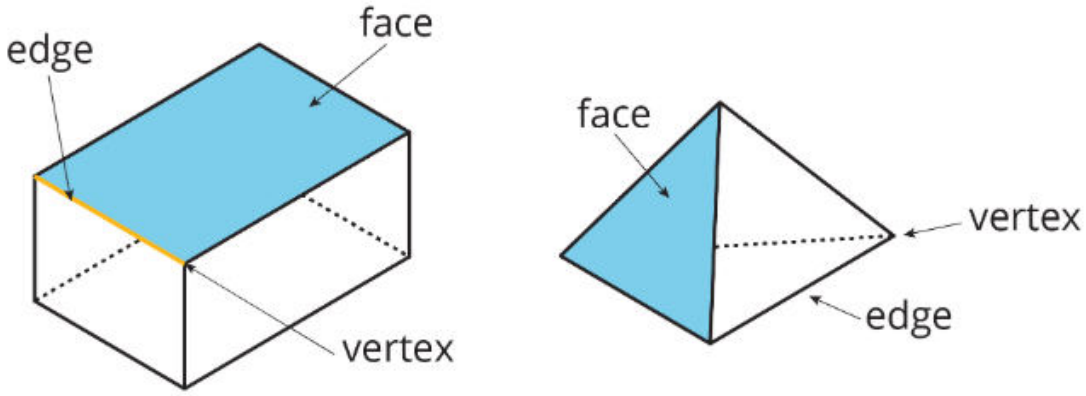
For each side of a triangle, there is one vertex that is not on that side. This is the opposite vertex.

For example, point is the opposite vertex to side .



Edge

A line segment in a polygon is called an edge (it is also called a side). A line segment where two faces meet in a polyhedron is also called an edge.

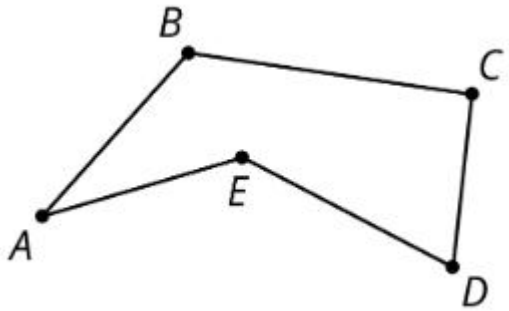


Polygon

A polygon is a two-dimensional figure composed of a sequence of straight line segments, connected end-to-end, with the last one connecting back to the first. We call the line segments the edges or sides of the polygon. We call a point where the edges connect a vertex. The edges of a polygon never cross each other.

The plural of vertex is vertices. A polygon always encloses a two-dimensional region.

Here is a polygon with five vertices A, B, C, D, and E and five edges (or sides): $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{DE}$, and $\overline{EA}$.



Quadrilateral

A quadrilateral is a four-sided polygon.
A rectangle is a quadrilateral. A pentagon is not a quadrilateral.

side

A line segment in a polygon is called a side (it is also called an edge).
Sometimes the faces of a polyhedron are called its sides.

Vertex (vertices)

A vertex is a point where two edges meet in a polygon or a polyhedron.

Face

Any flat surface on a three-dimensional figure is a face.
A cube has 6 faces.

Surface Area

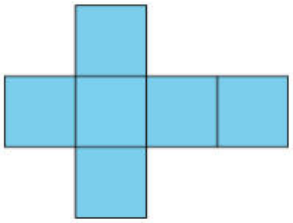
The surface area (in square units) is the number of unit squares it takes to cover all the surfaces of a three-dimensional figure without gaps or overlaps.

Each square face of this cube has area 9 square centimeters, so the surface area of the cube is $6 \cdot 9 = 54$ square centimeters.

Net

A net is a two-dimensional representation of a polyhedron. It can be cut out and folded to make a model of the polyhedron.

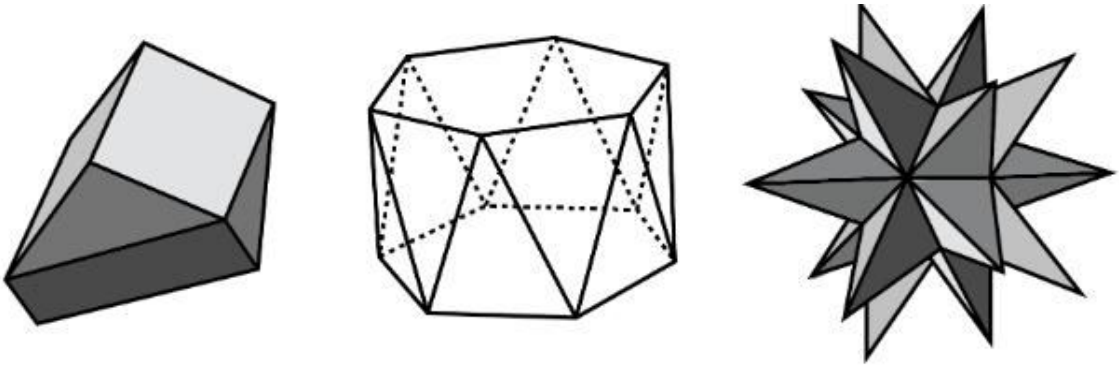
Here is a net for a cube.



Polyhedron (polyhedra)

A polyhedron is a three-dimensional figure with faces that are polygonal regions (filled-in polygons). Each face meets one and only one other face along a complete edge. The points where edges meet are called vertices. The plural of polyhedron is polyhedra.

A polyhedron always encloses a three-dimensional region. Here are some drawings of polyhedra.

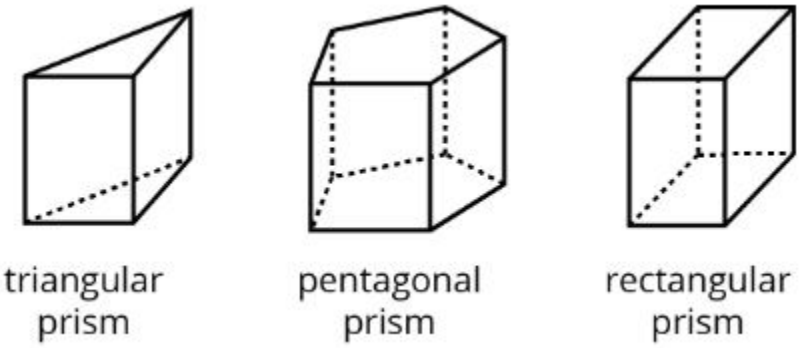


Prism

A prism is a type of polyhedron with two parallel faces that are identical copies of each other (called bases) connected by rectangles.

A prism is named for the shape of its bases; for example, if its base is a pentagon, then it is called a “pentagonal prism.”

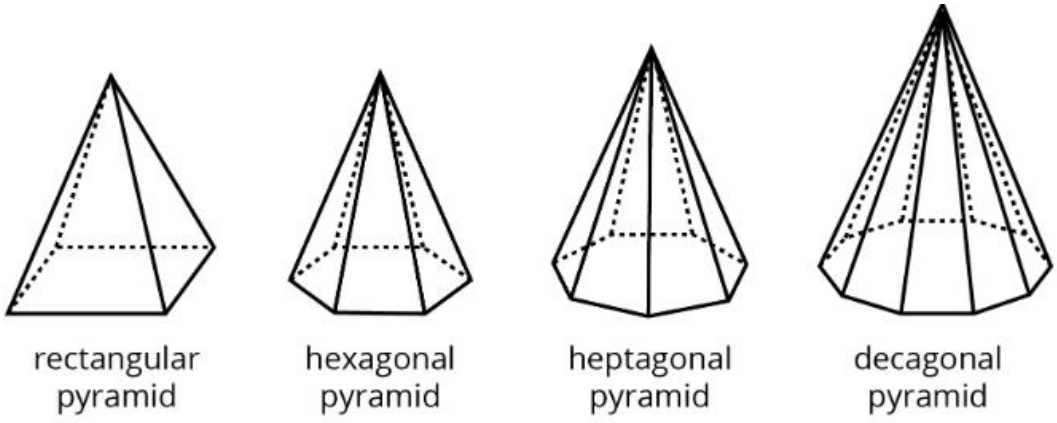
Here are some drawings of some prisms.



Pyramid

A pyramid is a type of polyhedron that has one special face called the base. All of the other faces are triangles that all meet at a single vertex. A pyramid is named for the shape of its base; for example, if its base is a pentagon, then it is called a “pentagonal pyramid.”

Here are some drawings of some pyramids.



surface area

The surface area (in square units) is the number of unit squares it takes to cover all the surfaces of a three-dimensional figure without gaps or overlaps.

Each square face of this cube has area 9 square centimeters, so the surface area of the cube is $6 \cdot 9 = 54$ square centimeters.

cube of a number / cubing a number

An expression with an exponent of 3 is sometimes called a cube. The reason s^3 is called the cube of s is that a cube whose edge has length s has volume s^3.

The expression 2^3 is read as "2 to the third power" or "2 cubed." We also write cm^3 and say "centimeters cubed."

Exponent

When we write an expression like 7^n , we call n the exponent.

If n is a whole number greater than 0, it tells how many factors of 7 we should multiply to find the value of the expression. For example, $7^1 = 7$, and $7^4 = 7 \cdot 7 \cdot 7 \cdot 7$. Also, $7^0 = 1$.

square of a number / squaring a number

An expression with an exponent of 2 is sometimes called a square. The reason s^2 is called the square of s is that a square whose edge has length s has area s^2.

The expression 3^2 is read as “3 to the second power” or “3 squared.” We also write cm^2 and say “centimeters squared.”