

Geometrical definitions



Point



Midpoint



Plane shape
Two dimensional
shape



Solid
Three dimensional shape



Parallel lines



Horizontal straight
line



Vertical straight
line



Curved line



Broken line



Perpendicular lines



Square



Rectangle



Triangle



trapezium (UK) / trapezoid
(US)



rhombus



Oval - Ellipse



Circle



Half-circle



Hexagon



Pentagram

Geometrical definitions



Disc



Cylinder



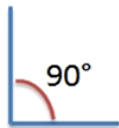
Cube



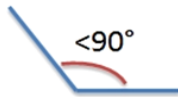
Prism



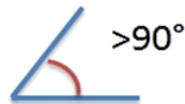
Sphere



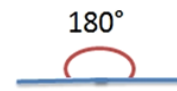
Right angle



Obtuse angle



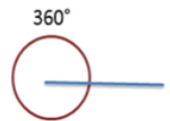
Acute angle



Straight angle



Reflex angle



Full rotation angle



Circumference



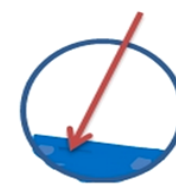
Area



Radius



Diameter



Segment



Sector



Length



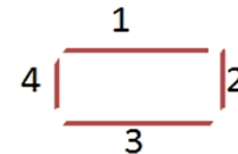
Width



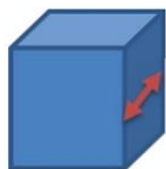
Perimeter



Diagonal



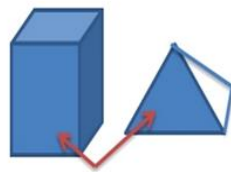
Sides



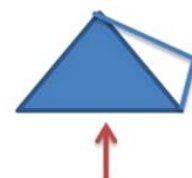
Depths



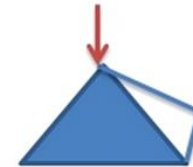
Height



Face



Base



Vertex (pl. vertices)



Edge

Definitions in geometry

Note the following mathematical symbols:

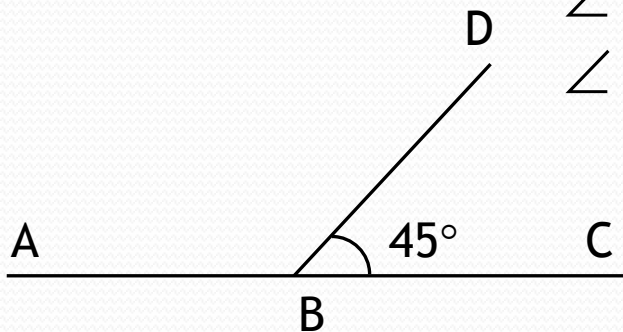
$<$: is less than

$>$: is more (greater) than

\cong : is approximately equal to

\sphericalangle : angle

\parallel : is parallel to

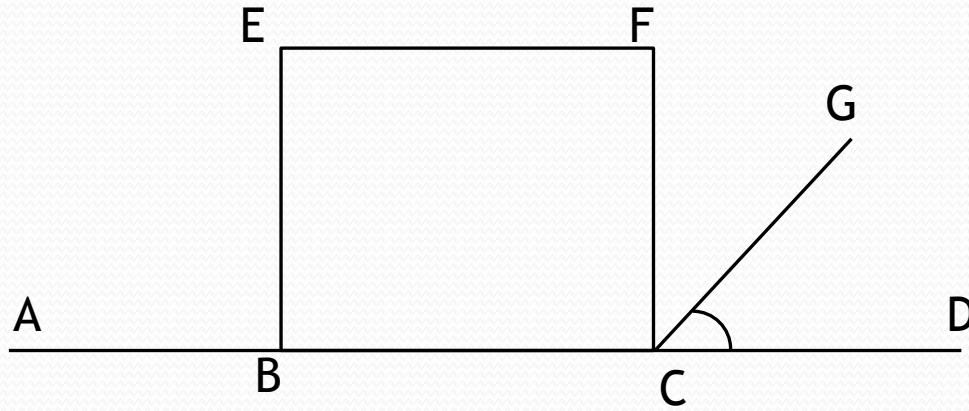


\sphericalangle DBC is an acute angle, i.e. \sphericalangle DBC $<$ 90°

\sphericalangle DBA is an obtuse angle, i.e. \sphericalangle DBA $>$ 90°

\sphericalangle DBA and \sphericalangle DBC are supplementary angles because they add up to 180°

Definitions in geometry



$\angle EBC$ is a right angle, therefore EB is perpendicular to the line AD.

- $\angle FCD$ is a right angle, consequently FC is perpendicular to the line AD.
- Since both EB and FC are perpendicular to AD, EB is parallel to FC, i.e. $EB \parallel FC$
- As $\angle FCD$ is 90° , $\angle GCF$ and $\angle GCD$ are complementary angles, i.e. $\angle GCF + \angle GCD = 90^\circ$
- The figure BCFE is a rectangle

Definitions in geometry

2-D figures



Figure on the left is a parallelogram. Opposite sides of a parallelogram are equal and parallel.

Figure on the right is a rectangle. Rectangle is a parallelogram whose four angles are right angles.



Figure on the left is a square. A square is a rectangle whose four sides are equal in length.

Definitions in geometry

2-D figures

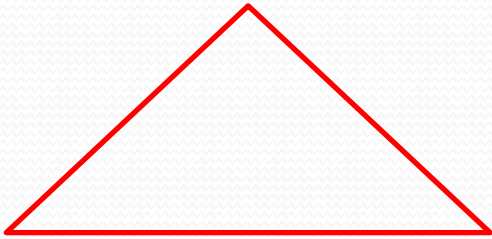


Figure on the left is a **triangle**.
A triangle has three sides.

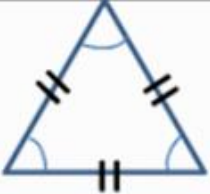






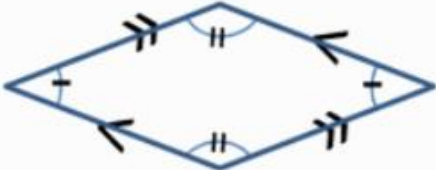



Figure on the left is a **quadrilateral**.
A quadrilateral has four sides.

Figure on the right is a **pentagon**.
A pentagon has five sides.



Geometrical definitions

TRIANGLES	QUADRILATERALS	REGULAR POLYGONS
		
<p>Equilateral triangle All sides equal; interior angles 60°</p>	<p>Square All sides equal; all angles 90°</p>	<p>Equilateral triangle 3 sides</p>
		
<p>Isosceles triangle 2 sides equal; 2 congruent angles</p>	<p>Rectangle Opposite sides equal, all angles 90°</p>	<p>Square 4 sides</p>
		
<p>Scalene triangle No sides or angles equal</p>	<p>Rhombus All sides equal; 2 pairs of parallel lines; opposite angles equal</p>	<p>Regular Pentagon 5 sides</p>

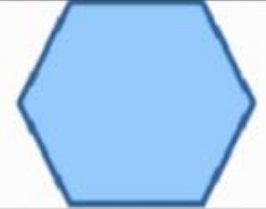
Geometrical definitions



Right triangle
1 right angle



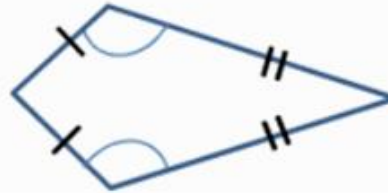
Parallelogram
Opposite sides equal, 2 pairs of parallel lines



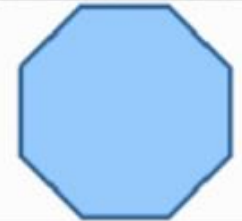
Regular Hexagon
6 sides



Acute triangle
All angles acute



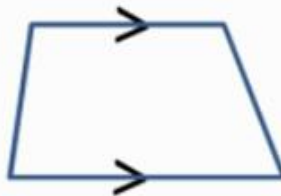
Kite
Adjacent sides equal; 2 congruent angles



Regular Octagon
8 sides



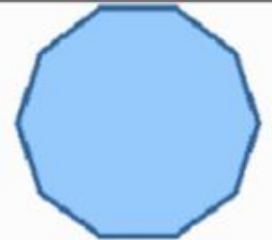
Obtuse triangle
1 obtuse angle



Trapezoid
1 pair of parallel sides



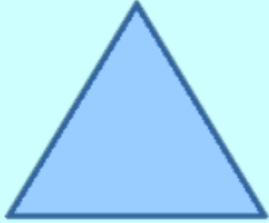
Trapezium
No pairs of parallel sides



Regular Decagon
10 sides

Regular and Irregular Polygons

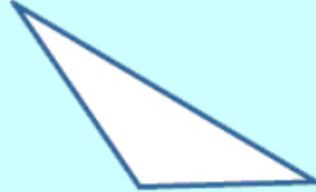
Equilateral Triangle



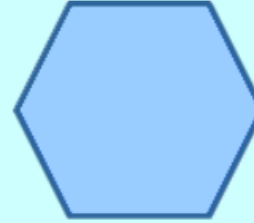
Angle: 60°

Interior angles add up to 180°

Irregular Triangle



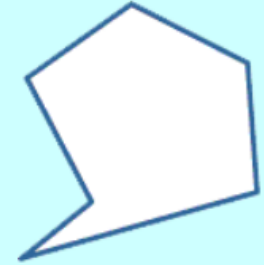
Hexagon



Angle: 120°

Interior angles add up to 720°

Irregular Hexagon



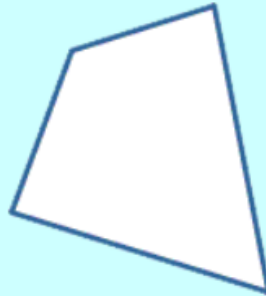
Square



Angle: 90°

Interior angles add up to 360°

Irregular Quadrilateral



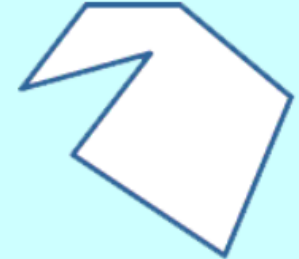
Heptagon



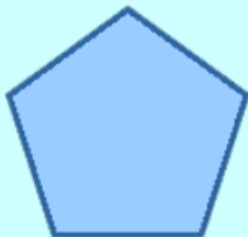
Angle: 128.6°

Interior angles add up to 900°

Irregular Heptagon



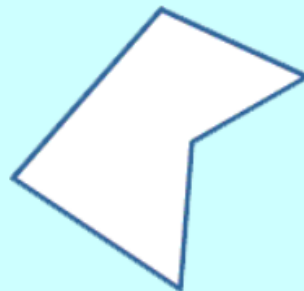
Pentagon



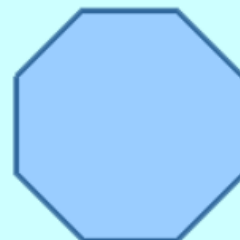
Angle: 108°

Interior angles add up to 540°

Irregular Pentagon



Octagon



Angle: 135°

Interior angles add up to 1080°

Irregular Octagon



Regular and Irregular Polygons

Nonagon



Angle: 140°

Interior angles add up to 1260°

Irregular Nonagon



Decagon



Angle: 144°

Interior angles add up to 1440°

Irregular Decagon

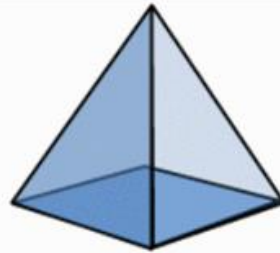


Geometrical definitions



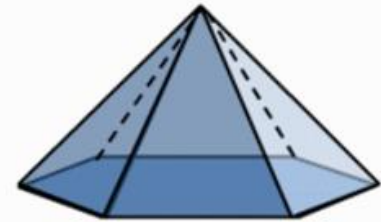
Tetrahedron

Faces: 4; Edges: 6; Vertices: 4



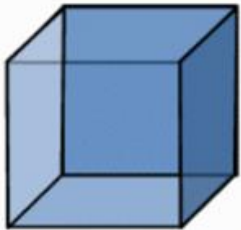
Square pyramid

Faces: 5; Edges: 8; Vertices: 5



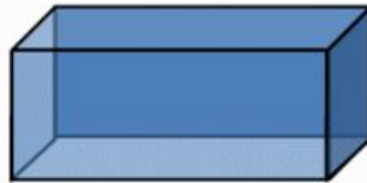
Hexagonal pyramid

Faces: 7; Edges: 12; Vertices: 7



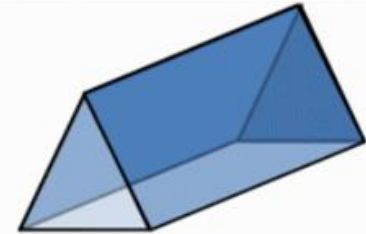
Cube

Faces: 6; Edges: 12; Vertices: 8



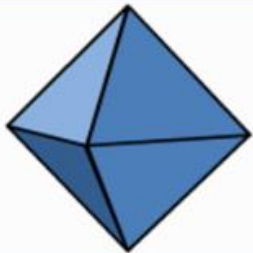
Cuboid

Faces: 6; Edges: 12; Vertices: 8



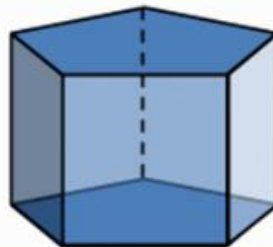
Triangular prism

Faces: 5; Edges: 9; Vertices: 6



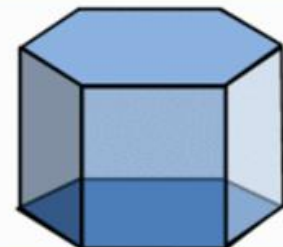
Octahedron

Faces: 8; Edges: 12; Vertices: 6



Pentagonal prism

Faces: 7; Edges: 15; Vertices: 10



Hexagonal prism

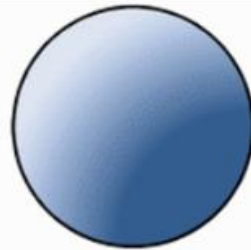
Faces: 8; Edges: 18; Vertices: 12

Geometrical definitions



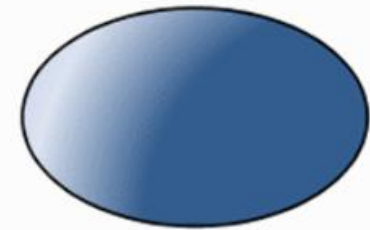
Dodecahedron

Faces: 12; Edges: 30; Vertices 20



Sphere

Faces: 1; Edges: 0; Vertices 0



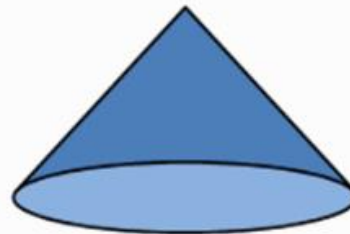
Ellipsoid

Faces: 1; Edges: 0; Vertices 0



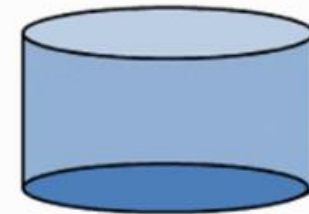
Icosahedron

Faces: 20; Edges: 30; Vertices: 12



Cone

Faces: 2; Edges: 1; Vertices: 0 or 1

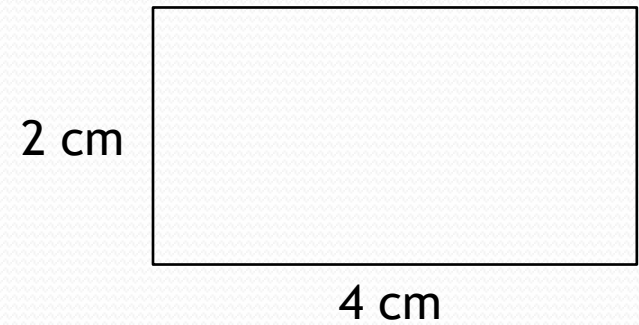


Cylinder

Faces: 3; Edges: 2; Vertices: 0

Dimensions of 2-D figures

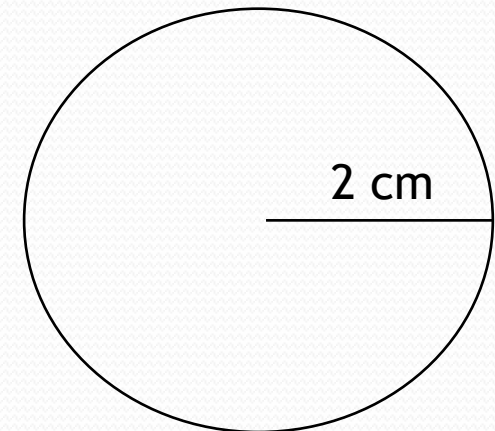
The length of the rectangle is 4 cm.
The width of the rectangle is 2 cm.



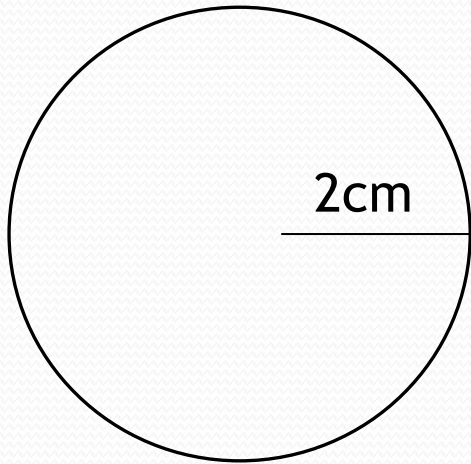
This circle has a radius of 2 cm.
This circle has a diameter of 4 cm.
This circle has an area of 12.57 cm^2 .
This circle has a circumference of 12.57 cm.

This circle is 4 cm in diameter.
This circle is 12.57 cm in circumference.

The diameter of this circle is 4 cm.
The area of this circle is 12.57 cm^2 .
This radius of this circle is 2 cm.
The circumference of this circle is 12.57 cm.



Dimensions of 2-D figures



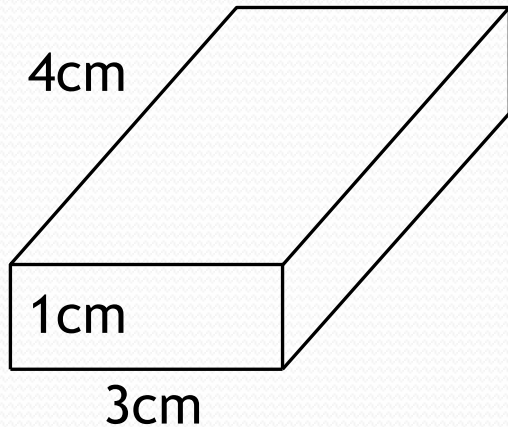
The verb 'has' can be used to describe the dimensions of a circle:

This circle has a **radius** of **2.0 cm**.
diameter **4.0 cm**
area **12.57 cm²**
circumference **12.57 cm**

This circle is **4.0 cm** **in** **diameter**.
12.57 cm **in** **circumference**.

The **diameter** of this circle is **4.0 cm**
area **12.57cm²**
radius **2.0 cm**
circumference **12.57 cm**

Dimensions of 3-D figures



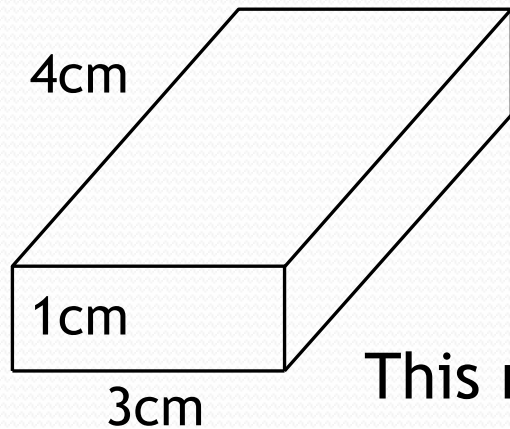
The figure on the left is a rectangular prism.

The verb 'has' can be used to describe the dimensions of a rectangular prism:

This rectangular prism has a	width	of	3.0 cm.
	length		4.0 cm
	height		1.0 cm
	volume		12 cm³
	surface area		38 cm²

12 cm³ : twelve cubic centimeters.

Dimensions of 3-D figures



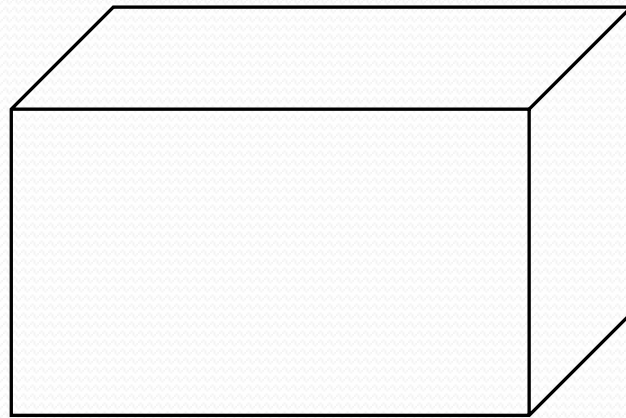
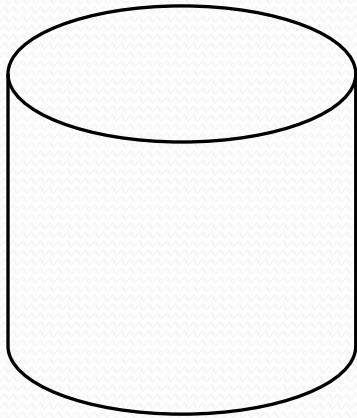
The verb 'is' can also be used to describe the dimensions of a rectangular prism:

This rectangular prism is 3.0 cm in width.
4.0 cm length.
1.0 cm height.
12.0 cm³ volume.

The volume of this rectangular prism is 12 cm³.

This rectangular prism is 4 cm long.
3 cm wide.
1 cm high.

Dimensions of 3-D figures



The cylindrical water tank has a capacity of 200 m^3 .

The rectangular water tank has a capacity of 400 m^3 .

The capacity of the cylindrical water tank is 200 m^3 .

The capacity of the rectangular water tank is 400 m^3 .